

The Twice Monthly Publication
for the Coin Operated Entertainment Industry

PLAY METER

Volume 8, Number 2

January 15, 1982

72 R 021681
KS 66044

AMOA SEMINAR REPORTS, TECH REVIEWS

BLUE SKY SALESMANSHIP REPORT:
'THE GAMES PEOPLE DON'T PLAY'

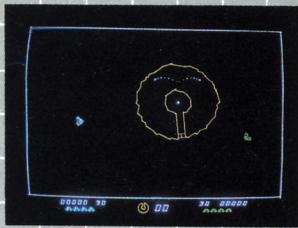
INTERNATIONAL OPERATING TROUBLES



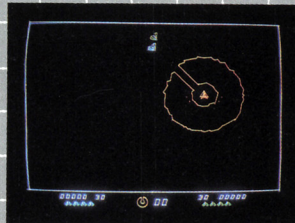
AMOA SHOW REVIEW '81, Part II

MEET YOUR NEXT TOP EARNER

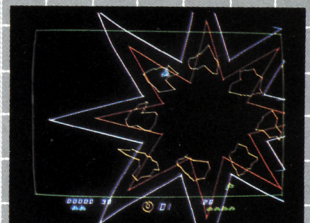
ELIMINATOR



Players battle each other while Eliminator gains energy.



Player ships positioned to shoot through tunnel leading to Eliminator.



A well-aimed shot through the tunnel explodes the Eliminator Base.

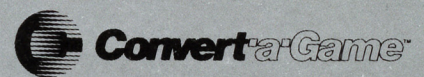
Make room for Eliminator™. Eliminator is the hot new game from Sega/Gremlin that's already climbing to the top of many earning reports. You can't afford to be without it.

Available today in the upright and cocktail cabinet. Eliminator combines all the elements of a great game. The brilliant ColorBeam™ screen display and bigger than life sound effects grab player's attention. Then, Eliminator's unique game play keeps them coming back for more. It's unique because the 2-player mode features simultaneous play, triggering fierce competition between players.

Dimensions:
Upright: 71-1/4" high, 29-7/8" deep,
25-15/16" wide, 330 lbs.

And remember Eliminator is a ColorBeam Convert-a-Game™, which can later be converted to a brand new top earning game at a

substantial savings. Convert-a-Games cost the same or less than other color X-Y nonconvertible games, so you save on a good investment. See your authorized Sega/Gremlin distributor for conversion details.



GREMLIN INDUSTRIES INC., 8401 Aero Drive, San Diego, CA 92123, (714) 277-8700, TLX: 910-355-1621
SEGA ENTERPRISES, LTD., #2-12 Chome Haneda, Ota-Ku, Tokyo, Japan. SEGA EUROPE, LTD., 15 Old Bond Street, Mayfair, London, England, W1X 3DB, TLX: 847777. SEGA ENTERPRISES, INC., One Century Plaza, 2029 Century Park East, Ste. 2920, Los Angeles, CA 90067, TLX: 688433.

©1981 Gremlin Industries, Inc.

Dimensions:
Cocktail: 25-1/8" high, 23-15/16" deep,
35-3/4" wide, 165 lbs.



SEGA® / Gremlin®

Publisher and Editor:
Ralph C. Lally II

Editorial Director:
David Pierson

Managing Editor:
Ray E. Tilley

Administrative Assistant:
Valerie Cognevich

Art Director:
Katey Schwark

Circulation Manager:
Renee' C. Pierson

Technical Writers:
Randy Fromm
Frank Seninsky
Zac Oliver

Correspondents:
Roger C. Sharpe
Patrick Matthews
Mike Shaw
Charles C. Ross
Mary Claire Blakeman
Mike Bucki
Dick Welu
Tony Bado
Bill Brohaugh
Marion Cutler
Roger Pearson

Classified Advertising:
Valerie Cognevich

Typographer:
Jo Ann Anthony

Advertising Manager:
David Pierson

Illustrator:
Bob Giuffria

European Representative:
Esmay Leslie

PLAY METER, January 15, 1982. Volume 8, No. 2. Copyright 1981 by Skybird Publishing Company. *Play Meter* (ISSN 0162-1343) is published twice monthly on the 1st and 15th of the month. Publishing offices: 508 Live Oak St., Metairie, La. 70005; **Mailing address:** P.O. Box 24170, New Orleans 70184, U.S.A.; tel.: 504/838-8025. Subscription rates: U.S. and Canada—\$50; foreign: \$150, *air mail only*. Advertising rates are available on request. *No part of this magazine may be reproduced without expressed permission.* The editors are not responsible for unsolicited manuscripts. Second-class postage paid at Metairie, La. 70002 and additional mailing offices. **Postmaster:** Send Form 3579 to PLAY METER, P.O. Box 24170, New Orleans, La. 70184.

European Office: PLAY METER Promotions, "Harescombe" Watford Road, Northwood Middx. England, Northwood 29244.

PLAY METER

The Twice Monthly Publication for the Coin Operated Entertainment Industry
BPA circulation audit applied for

FEATURES

10

AMOA Show Coverage:

From *Play Meter's* staff coverage of the programs, here are reports on the 1981 state associations meeting by David Pierson (page 10); AMOA seminars on arcade and route operating, Ray Tilley (page 12); the economy of vehicles on the route, Valerie Cognevich (page 14); and an overview of the seminar program offered (page 20).

39

The Games People Don't Play

Another in a series of reports on the growing problem of rip-off games sellers, here is Mike Shaw's investigative article revealing how new operators say they got burned by fly-by-nighters.

48

Coin of Vantage

If the title of this new *Play Meter* feature is foreign to the reader, hopefully it will become more familiar as we add this new technical/service writer to our list of correspondents: Paul Thiele, introducing his column in his issue.

69

A Technical Look at the AMOA Show

Rounding out our coverage of Chicago, this article by technical writer Zac Oliver examines the Expo with an eye on reliability of the product and special attention to the technical components on exhibit.

DEPARTMENTS

7 Up Front

9 Mailbox

10 News

16 Equipment Poll

34 International News

58 The Idea Bank: Location Cost Analysis

61 Frank's Cranks

70 Music Programming

75 Technical Topics

78 Viewpoint on Video

82 Critic's Corner

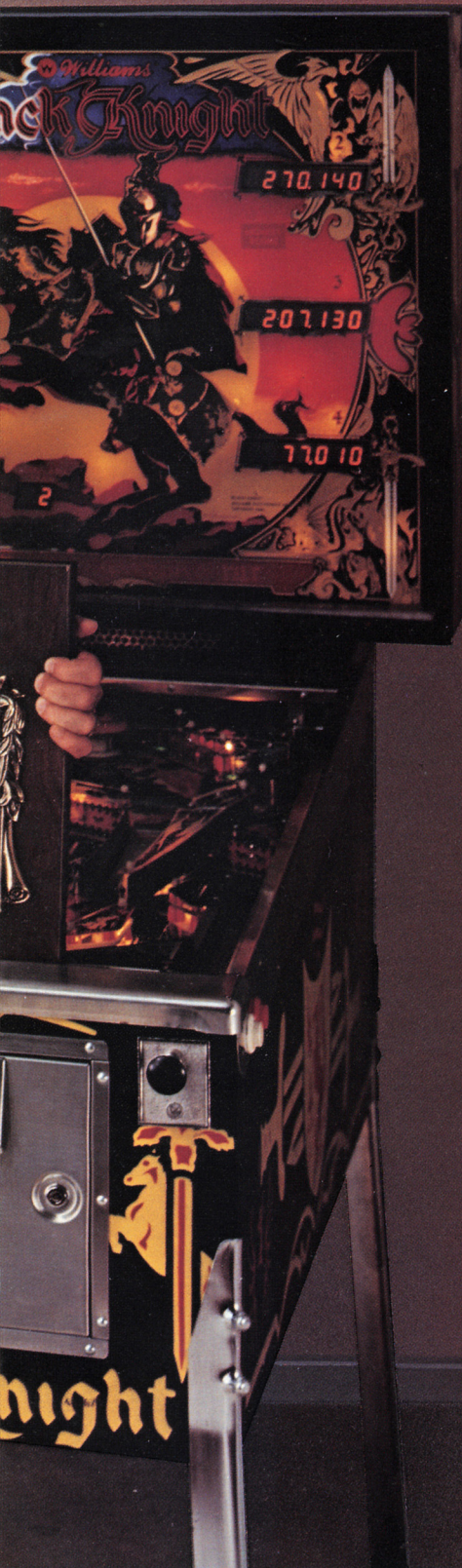
84 New Products

88 Classified Advertising

96 News Briefs



THANKS TO YOU, WE'VE HAD TO REDECORATE.



"Highest Earning Pinball Game"



"Highest Earning Video Game"



"Best New Technical Improvements on a Pinball Game"



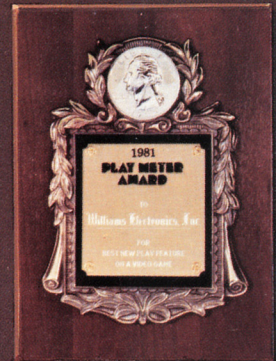
"Best New Technical Improvements on a Video Game"



"Best New Play Feature on a Pinball Game"



"Best New Play Feature on a Video Game"



"The Play Meter" awards are based upon the operators' votes tabulated from the largest independent sampling of the industry conducted by "Play Meter" magazine.

Thank you!

"On behalf of Williams Electronics, I would like to thank the operators, distributors and 'Play Meter' magazine for these awards. Most of all, I want to thank the employees of Williams who, through their talent and dedication, have allowed us to have the most successful year in Williams' history. We are looking forward to continued innovation to provide the industry with some of the most exciting amusement games ever."

Michael R. Stott

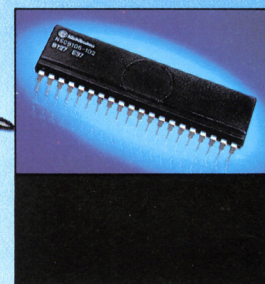
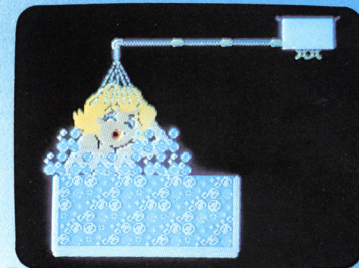
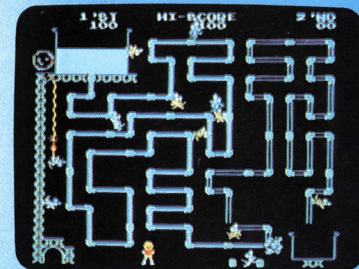
Williams 
ELECTRONICS, INC.

Frisky Tom



Nichibutsu
TM

TOM THE PLUMBER &
5 MISCHIEF-FILLED MICE HAVE
TANKFULS OF GOOD CLEAN FUN WITH
A LOVELY BLONDE.



SPECIFICATION

	TABLE MODEL No. FT11001	TABLE MODEL No. FT21001	UPRIGHT MODEL No. FTA1001	CHILD UPRIGHT MODEL No. FTC1001
C.R.T.	14INCH	20INCH	20INCH	14INCH
Width	850mm	870mm	600mm	466mm
Depth	545mm	560mm	690mm	560mm
Height	625-765 (Can be adjusted in five stages)	685-825 (Can be adjusted in five stages)	1625mm	1375mm
Power Source	100V-240V/ 100W	100V-240V/ 110W	100V-240V/ 110W	100V-240V/ 100W



© 1981 Nihon Bussan Co., Ltd.



Nichibutsu
Nihon Bussan Co., Ltd.

HEAD OFFICE:
12-9, 1-chome, Tenjinbashi, Kita-ku, Osaka, Japan
TEL. (06) 353-5211 TELEX 523-6891 NCBCOL J

Nichibutsu U.S.A. Corp.

1815 W. 205th St. Unit #302 Torrance, California, 90501, U.S.A.
TEL. (213) 320-5855 TELEX 9103496664 NCBTUSA TRNC

It should come as no surprise to anyone involved in this industry that the 1981 AMOA Show was the biggest and best ever. In terms of total attendance, the granddaddy of coin-op shows surpassed the 10,000 mark. A truly astonishing fact for a national trade show that drew only 5,300 five years ago. Despite the grossly inadequate facility of the crumbling Conrad Hilton, the show was a huge success. Oh, there were the usual problems with lengthy registration lines, separate exhibit areas, overcrowded aisles and booths, and the almost unbearable heat. But thank heavens, this is the last time the AMOA Show will ever be held at the Conrad Hilton. Moves to Chicago's Hyatt Regency next year and then New Orleans' Rivergate in 1983 will provide a welcome relief to all.

With the AMOA Show behind us now, all eyes are turning toward toward the Amusement Operators Expo to be held at the Hyatt Regency Hotel in Chicago, March 26-28. While the move from New Orleans to Chicago has disappointed only a small percentage of attendees, we are steadfast in our commitment that the AOE shall not be held in the same city year after year. One reason for this is that the AOE was established and always will be an operator-oriented exposition. Unlike the AMOA Show—which draws heavy attendance from manufacturing and distributing personnel as well as its own membership and a large international attendance—the AOE Show, through its intensive seminar program, attracts the street and arcade operators throughout America.

This is not to say that the AMOA is going about it the wrong way by keeping its show in Chicago year after year. Quite the contrary. Chicago is the most logical and ideal location for the AMOA. Most of the industry's manufacturing concerns are based there and the city of Chicago is so centrally located that it is easily accessible for members, distributors, and international visitors as well. When the AOE is held outside of Chicago, we do not expect the Chicago-based manufacturers to bear the expense of sending hundreds of employees. Although we welcome international visitors, we don't promote international attendance due to the fact that the various seminars offered are all given in English.

The ultimate goal of the AOE Show is to make itself available to as many operators as possible. Moving the AOE Show around to such cities as New Orleans, San Francisco, Chicago, Atlanta, and possibly some others will enable more operators all across America to take advantage of the comprehensive seminar program offered by the AOE which has contributed immensely to its rapid success. Witness last year's seminar program that offered 31 seminars with an average attendance at each seminar of 100-plus operators. The number of seminars scheduled for the

upcoming AOE Show has been increased to 40 to accommodate the growing demand for the vital information those seminars provide. Moving the AOE around like this simply makes it easier for more operators in different parts of the country to take advantage of what the AOE has to offer.

Here again, this is not to say that the AMOA should be providing more seminars. The format size and purpose of that show is such that no time is available for large numbers of lengthy seminars. There are so many exhibits and so many people, it's all one can do to visit every booth and still attend the meetings and seminars. The AMOA is doing well to provide the seminars it does offer—which, by the way, have improved this year.

Because the AOE is a much smaller show than the AMOA—both in terms of attendees and exhibits—more time is available for a comprehensive seminar program and all the exhibits can easily be taken in with a less crowded and a more relaxed atmosphere. The AOE Show is designed for serious minded operators dedicated to improving their business as well as their profits.

The AOE Show has never considered itself in direct competition with the AMOA Show, nor does it have any aspirations of replacing or ever surpassing the AMOA Show. In terms of attendance we don't expect hundreds of international attendees. In terms of the exhibit area, we are pursuing a course that would allow the display of amusement equipment only. For that reason alone, we don't expect ever to surpass the number of booths sold by the AMOA which accepts gambling exhibitors, apparently for its international attendees.

What I'm really trying to get across here is that there is a definite need for two national trade shows for this industry, each one serving its own unique purpose.

Both the AMOA and the AOE occur during the peak buying seasons of the coin-op year, the AMOA in the Fall and the AOE in the Spring. In their own unique ways, both the AMOA and the AOE serve a very vital function and contribute to the combined growth and prosperity of the industry. We fully support our two national trade shows and encourage each one of you to support them as well. The more we communicate and interact with one another, the faster this industry will grow and prosper. And believe me, the sky is still the limit.



Ralph C. Lally II
Editor and Publisher



Accounting Problems?

Every business needs accounting but we know yours is especially difficult. So we're introducing Personal Computer Software designed just for those of you in the coin operated industry. Our ASSET MANAGEMENT PROGRAM is more than a general ledger system . . . Just check our features:

ACCURATE EQUIPMENT HISTORY
 PREVIOUS EQUIPMENT HISTORY
 COMPLETE GENERAL LEDGER
 GENERAL JOURNAL

Breakdown by Location & Route
 Profit/Loss by Location & Route

CONSOLIDATED SALES JOURNAL

By Location & Route with Statistics
 On Sales By:

Revenue
 Machine Type
 Machine Name
 EQUIPMENT REVENUE HISTORY

CASH DISBURSEMENT JOURNAL

BALANCE SHEET
 INCOME STATEMENT

By Location & Route
 EQUIPMENT DEPRECIATION PROGRAM
 Which Facilitates New '81' Tax Law.

AND MUCH MORE!

Our system is Fast, Flexible and Cost Effective. Training and Loading (in Our Office) is included in our "COMPLETE SOFTWARE PACKAGE". We also have a data service available.

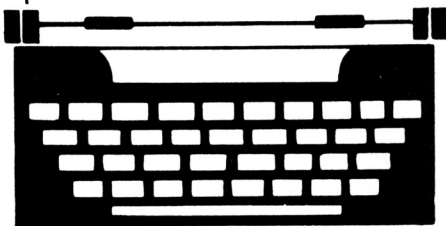
Visit Booth no. 636 & 637 at Expo '82 for a demonstration. Be sure to take advantage of our introductory 10% discount special on all orders prior to and during Expo '82 in Chicago.



CAME SOFTWARE SYSTEMS, INC.

5200 W. NEWBERRY RD. SUITE D-6
 GAINESVILLE, FL 32607

Letters to the editor . . .



Software first

Through being listed in the October 15 Buyers' Guide issue of your magazine, we have received several calls asking if our accounting system will work on a particular machine. From the questions being asked, it is apparent that the majority of people who decide to go onto a computer may not understand what to look for when buying a computer and how the computer's operating system, in conjunction with the software, manages the computer's resources. I believe this is causing a great deal of confusion to those who want to buy a computer.

Many people are buying the computer first, and then looking for an accounting system that will fit their needs. Often, an accounting system that fits their needs is not available for the machine that they have purchased, particularly in the microprocessor computer.

William P. Morris
President
Creative Amusement, Inc.
Gainesville, Florida

Not joining up

I heard a couple of months ago that there was going to be a recession and I've thought about it real serious and decided not to participate.

Al Gorman
The Al Gorman Company
Jacksonville, Florida

Optimism for 1982

As 1981 draws to a close, the distributors can look back with the greatest satisfaction that it probably

will set a new record both in sales and profits for most of them. Video games unquestionably have been a product line that has given the industry a completely new dimension. This unique micro-processor marvel has opened up a completely new market for leisure entertainment, arcades, beauty parlors, hotels, motels, barber shops and 24-hour grocery stores have become common locations for this unusual product.

Acceptance on the part of the public has been fostered by the tremendous home market which has been developed, making video games not only a coin machine product but also a consumer product whose impact on the public is only in the embryo state.

Everyone in the industry asks "How long will it last?" The technology utilized in video games also is in the embryo stage and *Pong*, the first successful game, although introduced less than 10 years ago, was a crude game compared to the advancements made on current equipment.

At the AMOA Show the first utilization of video in other products such as pinball games challenges the mind to create a completely new concept in games.

What 1982 holds in store for distributors and operators is only limited to the creativity of the manufacturer. Each year one or more manufacturers have been capable of developing that one unique piece of equipment which makes the year a success for the distributors. One successful distributor has stated, "Give me one outstanding machine and the year is made." This statement has proven itself over the years and 1982 like 1981 will undoubtedly have another "Pac-Man," the most outstanding game for 1982.

Everyone with whom I have spoken in the industry optimistically looks forward to 1982 with confidence that it will be another successful year.

The Amusement and Vending Machine Distributors Associations' programs for 1982 will be directed to fostering a positive entertainment concept in the industry image, monitoring adverse legislation and developing a closer relationship with AMOA and ADMA to better serve the industry.

E. G. Doris
Executive Director
AVMDA
Chicago, Illinois

Audio Visual Amusements



**Offering the finest new
and used equipment**

REPRESENTING LEADING FACTORIES

• SALES, PARTS, SERVICE •

ARCADE PLANNING SPECIALISTS

**Over 50 beautifully reconditioned
solid state pinballs available**

**YOU'VE TRIED THE REST,
NOW TRY THE BEST
WE'RE EAGER TO SERVE**

1809 Olive Street
St. Louis, Missouri 63103

(314) 421-5100

For further information, call Pete Entringer (collect)

State associations confer

'Very few members quit an association because they're mad or because the association took a stand, even a disagreeable stand.' —Walt Maner, Michigan association

By David Pierson

The State Association Conference at the Conrad Hilton Hotel the day before the AMOA Show dealt with two specific areas of concern for state associations—retaining membership and organizing a potential action committee.

But the first topic offered little that those in attendance didn't already know, and the second topic appeared to be too restrictive to be applied in many other states.

Still, the gathering of about forty people (among them, state association officers and executives) were treated to a few helpful items of information—not the least of which included an AMOA "Special Report" on state associations.

The panel member charged with the topic of membership retention, Walt Maner of the Music Operators of Michigan, stressed that "the association must justify its existence or else operators won't bother to renew their membership."

The only viable way for the state association to retain membership, Maner said, was for it to provide programs and services all year long and then to keep members aware of these programs and services all year long.

"To retain members," he pointed out, "the association must be able to meet their needs." He said the real challenge of any association is the apathetic member. He is the most likely not to renew. So it is the responsibility of the association to get him involved, to create programs that will spur him to participate actively.

But the unspoken fear among association executives is that, if the association really does its job and takes decisive stands, it may alienate and lose many of its members. It's a real problem that has compromised many associations—not only in this industry—into inaction. But is it a valid fear? Will decisive association

action lose membership?

Probably not. Said Maner, "Very few members quit an association because they're mad or because the association took a stand, even a disagreeable stand."

Maner's statement echoes what other state association leaders have learned. This past summer, for instance, Paul Corey, executive director of the Ohio association, told *Play Meter* his state association lost only a couple of members because of the OMAA's controversial and uncompromising stand against gray area games.

"We can't ignore the fact," said Maner, "that people belong to associations because they want to and not because they have to." That's the reason, he said, associations must create programs that provide useful services to members.

Jim Hayes, president of the Ohio association, was the other panel member. His topic dealt with organizing a political action committee. The purpose of such a committee is to generate industry donations to be used as political campaign contributions. A PAC fund, some believe, could help combat adverse legislation and may even go a long way toward promoting positive government programs impacting on this industry.

Hayes said that it makes a big difference when the money is donated to political candidates. "Primary money has more influence than money donated in runoff elections," he said. But he pointed out the gamble associated with such donations. "Money donated in primaries is more chancy, especially if there are many candidates." Someone also pointed out it could create an adverse effect if the candidate's opponent wins the election and construes the donations as being against him.

The Ohio association president

said that state associations which try this approach "should make sure the money goes to the right people"—like an important committee chairman, for instance, whose committee might directly impact on the coin-op business.

Among the arguments against political action funds, Hayes noted that membership donations would probably be less than enthusiastic. Unless there were an immediate crisis, he said, the association couldn't really count on a political action fund to generate very much.

Another thing state associations should consider before they commit to a political action fund, Hayes said, is that it could get the association embroiled in all sorts of legal hassles "unless you know the law before you get involved."

To avoid this problem, he suggested the association get a good legal opinion before committing to this course of action.

In the question-and-answer segment of the meeting, Bob Rinehart of the Florida association argued against a political action fund. "From my experience," he said, "I can tell you that if you can't raise \$30,000, don't get involved. There's too much of a hassle involved."

Corey of the Ohio association voiced a warning about political action funds, then said they were not a panacea to all the industry's problems. "A PAC fund is only one tool to use."

Most participating state associations claim their memberships are 50 to 70 % of the total number of operators in their areas.

Associations data

Among the flyers and reprints that were handed out to those in attendance was an AMOA "Special Report on State Associations: Organization, Management, Programs."

The "Special Report" detailed the responses to an AMOA questionnaire that was sent to 40 state and local associations.

Raw statistical data—such as membership totals, dues structures, frequency of meetings, use of

lobbyists, income and expense reports, and other comparisons as well—about the 14 responding associations were detailed in the four-page report.

Among the salient statistical data was one dealing with the various associations' estimates of what percentage of the operations in their respective areas belonged to the associations. The responses ranged from a low of 20 percent (New Jersey) to a high of 90 percent (North Dakota). There was one 100 percent response, but that was for a county trade association. The most common response from the responding state association was in the 50-70 percent range.

The "Special Report" also stated, in part, that "to better meet the needs of state associations and the industry, AMOA is developing subject files on a variety of subjects (including statistics) and will eventually transfer selected information on its data processing equipment."

There was also a remark made by Russell Mawdsley, a former president of the AMOA, who said, "the AMOA will offer assistance in organizing state associations for states with no state associations." •

THANK YOU

**To the hundreds who
crowded our showrooms
December 4 for the
Western Amusement
Games Exhibit.**

**Representing
the industry's finest.**



The Bettelman Family

**Exclusive representatives for: Atari • Bally • Centuri • Cinematronics • Midway
Stern • Taito • Tournament Soccer • Valley • Universal**

Also representing: Deco • Exidy • Game Plan • Gremlin • U.S. Billiards

C.A. Robinson & Co.

**Note out new address and telephone number:
2891 W. Pico Blvd. Los Angeles, Cal. 90006
Tel: (213) 735-3001**



AMOA Arcade Seminar panel (left to right): Beiber, Rothman, Pearlman, Pollak.

Getting coin-op in the door

The chain store market is ripe for coin-op games placement, a seminar on arcades was told during the AMOA Show program. The crowded session provided a panel of four professionals in arcade and chain operating who delved their experience for the attendees.

Several in attendance complained after the 90-minute exchange that the session had missed its mark; one said he had wanted information on game rooms, specifically in malls, and other specifics such as the range of rental costs. Mel Pearlman, seminar leader, responded that the provision of such detail would mean "a two-day, full seminar."

What the attendees did hear was the advice of the pros, including Fred Pollak of Aravend, Russ Beiber (formerly with Brunswick Corp.), and Bob Rothman (formerly with Funway Freeways).

Pollak advised "prospecting" chain outlets including newly opening supermarkets and bowling alleys. This may involve direct mailings to the companies; otherwise, checking with the licensing agency in a community, such as a building inspection office, to get a line on new businesses which may opt for coin-op. Make a contract with the client, he urged, whether the instrument is a simple or a complicated one—put in writing what you propose.

New military installations are also likely prospects for locations, he pointed out. Also check the restaurant chain franchisees, schools, and colleges, he told the

seminar attendees.

Beiber spoke on evaluating and buying new equipment. Test pieces at a distributorship and get revenue figures from the firm, he said. The operator should consider leasing as well as purchasing games, in order to make the most of his credit and capital resources. Don't buy all of the same games for every location, he advised; you will find that popularity varies from one location to another, so buy and locate accordingly.

Rothman spoke on promotions and community relations activities. PR tactics are vital today, as game saturation approaches for this market. Rothman suggested "in-store" promotions as the least expensive form of advertising, and he stressed the flexibility of pricing available through the use of tokens.

For promotional activities, consider having a sports figure appear in the game room; sponsor charity events; support a Little League team, Rothman advised. These actions attract the public eye to your operation in a way that can only be favorable.

On the question of the games saturation point, Pearlman advised the session that looking for new markets for locating is one answer. And Pollak pointed to chains including Red Lobster, Steak 'N' Ale, and pizza stores as outlets for expansion. K-Mart, Woolco, and others have expressed plans for having local operators handle games for him, advised Pollak, whose firm operates nationwide.

Into this widening market and during a time of some uncertainty and risk, comes the operator with his goals of expansion. Pollak advised: "Be a professional, to go in with a manner not to put off that client."

For those who undercut the revenue split of 50 percent or better for the operator, Pollak said the aspect of time is on the side of the one who clings to his better split. Don't give away 60 percent of the proceeds, he urged. "You can't get the money to reinvest at 40 percent split. You've got to get the location to understand that fact. There are always other areas and other locations."

Of the issue of raising play price from 25 cents, Pollak observed: "Machines ideally get the customers in and out fast," and he advised staying at the 25-cent level for the present.

In response to a question from the audience, of whether the AMOA might serve as a clearinghouse for computer software available to the operator, Pearlman said "The Association will look into it." (Seminar attendees had raised the same question during the previous fall's AMOA Show.)

A word of caution came from Pollak: cable television is currently offering 14 arcade-type games for home players at \$12 per month cost.

Pearlman said the AMOA seminar on arcades would be available to members at the cost of \$5 per cassette, plus handling charge.

—by Ray E. Tilley

MAKING THINGS HAPPEN PROFITABLY
FOR OUR CUSTOMERS IS A DEDICATION AS
WELL AS A SERVICE.

CIRCLE INTERNATIONAL CO.

LOS ANGELES:
2225 WEST PICO
LOS ANGELES, CALIFORNIA 90006
213 • 380-5850

PHOENIX:
3126 WEST THOMAS
SUITE 102A
PHOENIX, ARIZONA 85017
602 • 269-6736

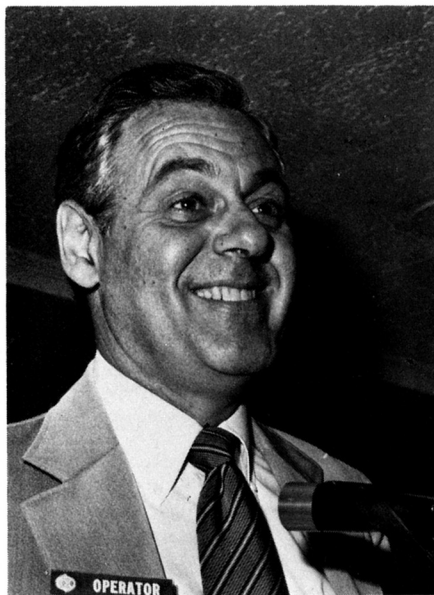
SAN DIEGO
5640 KEARNY MESA RD.
SUITE G
SAN DIEGO, CALIFORNIA 92111
714 • 278-3575

NEW OR USED,
WE ALWAYS HAVE WHAT YOU NEED IN
EQUIPMENT. WE WORK AT STAYING
THE BEST IN THE WEST.

Operators talk prices



Singer



Kerner

With prices soaring and quality slumping, the cost of purchasing and operating vehicles in any business is enormous. Security is also a must, and both of these subjects were elaborated on in a "Vehicle Costs and Route Security" seminar at the AMOA Show in Chicago, October 31.

Vehicle costs

Robert W. Singer of B&F Amusement Company, began his presentation on vehicle costs by reminding the seminar attendees of the fact that *everything* is costing more and more these days. Just a few years ago, gasoline cost was the least of anyone's worries—moreover, it was normal to get the car that held the most equipment. If the engine went out, you bought a new car! Now it's prudent, of course, to get the car with the best gas mileage and make sure you keep it around a few years.

Citing an example, Singer showed that a car traveling 25,000 miles per year, getting 10 miles per gallon would cost \$3500 in fuel. However, a car traveling the same 25,000 miles per year getting 20 miles per gallon only costs \$1750. Quite a savings, especially when you are usually operating more than one vehicle.

Singer stated that the vehicles used these days must have super gas mileage, plus enough power to handle a load, dependability, and just plain last and last. So how do you find this? First, don't attempt to use a car with too small an engine. Equipment weighs a lot and most people tend to over-stuff a car. A 6-cylinder engine just may not have enough power. A small V-8 is fuel efficient with plenty of power.

Secondly, Singer continued, don't buy a car that is too small. Check to see if it will hold the normal tools, etc., that are usually carried on a route. Check to see if it will hold a game, a backglass or the largest item you may have to transport. Many of

the smaller cars have adequate room inside, but make sure first.

Thirdly, if only one person will be using the vehicle, as a rule, a standard transmission will give you a better chance to squeeze every last mile out of that gallon of gas. However, if the car will be driven by a variety of people, an automatic transmission is probably your best bet. Also, four-wheel drive vehicles save fuel.

For deciding on the type of engine you will take in your vehicles, Singer lists the advantages and disadvantages of the gasoline engine versus the diesel engine. Gasoline engines are easy to work on by just about anyone and there is no problem finding fuel. The diesel engines may have fewer parts but not everyone can work on them. Also, not every gas station has diesel fuel.

Singer also pointed out that sometimes it is better to initially spend a little more for a car that has the better track record, to save on repair and upkeep costs. When purchasing a car, look at everything available but don't buy something that will not be practical in the long run.

B&F Amusements has rules concerning their vehicles, such as the following: (1) absolutely no passengers are to be taken in a company car (this includes cars which are taken home by employees); (2) no borrowing of company cars or trucks; (3) route men must turn in their mileage daily (not on a location to location basis); (4) route men must also fill out a slip showing that the oil, tires, etc. on their vehicle have been checked and are in good condition.

The two options, as far as large trucks for deliveries, are buy or lease. Each company should evaluate its moves and compute the cost of maintaining a truck and then compare that cost to renting. Obviously if your company uses a

Fly with...



Lady Bug

EXPANDS THE WORLD OF PLAY
UNIVERSAL

On display at your nearest
Distributor Showroom,
or contact us for referral.

Universal U.S.A., Inc.
3250 Victor Street
Santa Clara, CA 95050
Ph: (408) 727-4591 TLX: 172247

Play Meter

Equipment Poll

The following are rankings of the top videos and top pinballs making above average weekly gross collections nationwide. The dollar amounts appearing are the average weekly grosses as reported to Play Meter magazine through its regular national operator survey. Amounts are heavily weighted by averages reported from arcade locations; street locations are generally lower. Games with less than adequate responses (less than fifty percent) but with above average collections are so noted. Games not appearing on the poll either (1) did not generate over a ten percent response rate to provide an adequate representative sampling or (2) did not register weekly gross collections above the national average.

TOP VIDEOS

Seventeen of 40 videos (43%) with a response rate over ten percent have above average earnings.

	Jan. 15	Jan. 1	Dec. 15
National video average.....	\$171	\$171	\$169
1. <i>Donkey Kong</i> /Nintendo	\$285	\$288	\$283
★ 2. <i>Qix</i> /Taito.....	\$267	\$287	\$306
3. <i>Tempest</i> /Atari.....	\$259	\$266	\$260
4. <i>Frogger</i> /Gremlin.....	\$243	\$264	\$262
5. <i>Omega Race</i> /Midway.....	\$233	\$240	\$229
6. <i>Centipede</i> /Atari.....	\$228	\$221	\$232
7. <i>Defender</i> /Williams.....	\$216	\$218	\$233
8. <i>Pac-Man</i> /Midway.....	\$216	\$220	\$215
★ 9. <i>Vanguard</i> /Centuri.....	\$193	\$191	\$230
10. <i>Asteroids</i> /Atari.....	\$171	—	\$171

TOP PINBALLS

Ten of 21 pinballs (48%) with a response rate over ten percent have above average earnings.

	Jan. 15	Jan. 1	Dec. 15
National pinball average.....	\$ 99	\$ 99	\$101
1. <i>Black Hole</i> /Gottlieb.....	\$188	\$204	\$203
2. <i>Eight-Ball Deluxe</i> /Bally.....	\$137	\$129	\$135
★ 3. <i>Fathom</i> /Bally.....	\$123	\$108	—
★ 4. <i>Embryon</i> /Bally.....	\$107	—	—
5. <i>Mars</i> /Gottlieb.....	\$106	—	\$113

★ Conditionally Rated— Weekly average based on less than 50% response rate

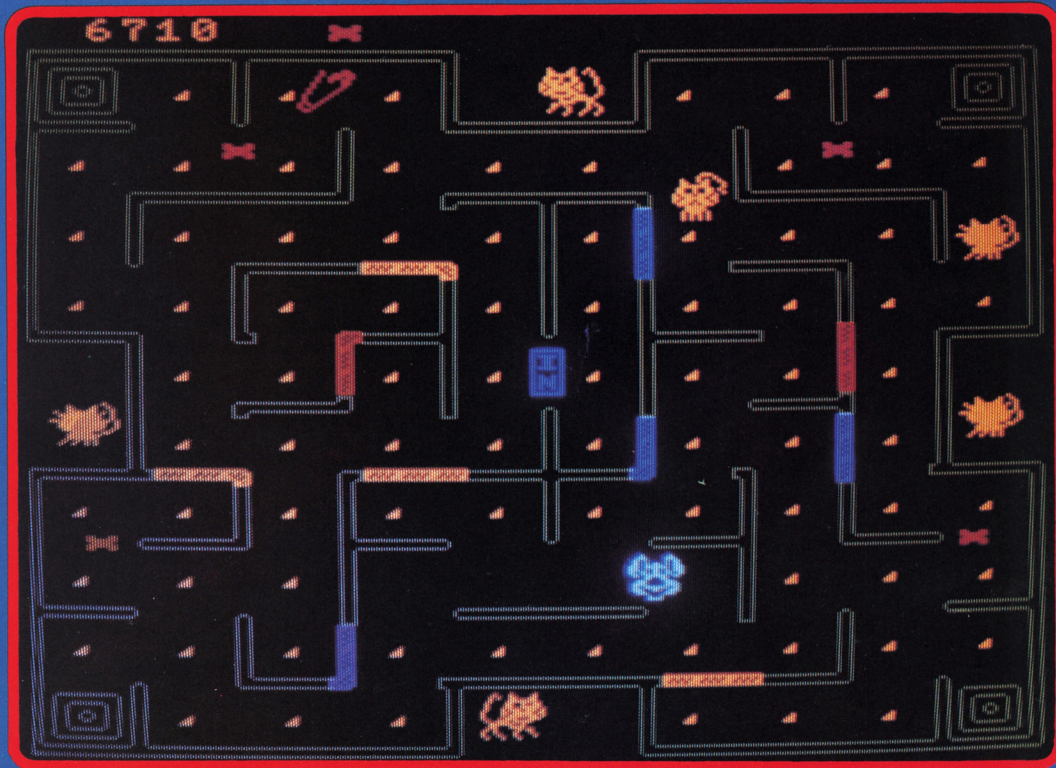
Provisionally Rated Pinballs and Videos

(Above average earning games, with a response rate between 10—25%)

VIDEOS				PINBALLS			
Provisional Ratings	Jan. 15	Jan. 1	Dec. 15	Provisional Ratings	Jan. 15	Jan. 1	Dec. 15
<i>Stargate</i> /Williams.....	\$295	—	—	<i>Elektra</i> /Bally.....	\$175	\$133	—
<i>Eliminator</i> /Gremlin.....	\$260	—	—	<i>Volcano</i> /Gottlieb.....	\$145	\$126	\$114
<i>Galaga</i> /Midway.....	\$256	\$238	—	<i>Centaur</i> /Bally.....	\$136	\$138	\$133
<i>Solar Quest</i> /Cinematronics.....	\$208	\$203	—	<i>Medusa</i> /Bally.....	\$127	—	—
<i>Make Trax</i> /Williams.....	\$190	\$250	—	<i>Catcomb</i> /Bally.....	\$100	—	—
<i>Space Fury</i> /Gremlin.....	\$187	—	\$206				
<i>Red Alert</i> /GDI.....	\$186	—	—				

Operator/readers who would like to join the ever-growing numbers of readers participating currently in the survey, write: *Play Meter*, Equipment Poll, P.O. Box 24170, New Orleans 70184.

EXIDY BUILDS A BETTER MOUSETRAP!



MOUSE TRAP™

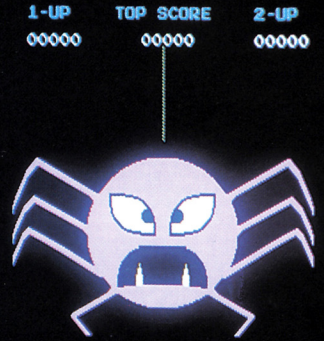
Exidy

390 Java Drive Sunnyvale, CA 94086
Phone: (408) 734-9410, Telex: 357-499.

SPIDERS



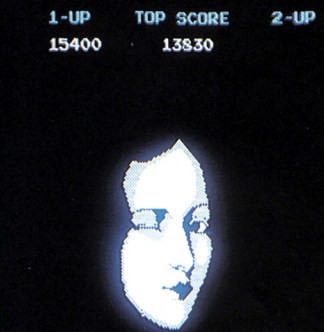
Commencing the battle, a huge purple spider will appear challenging the player to test his skills against the attack waves of the menacing spiders.



The horrible pods appear on the screen exploding and releasing deadly spiders to descend upon the player. Watch out! The treacherous spiders will hurl super webs and sonic waves at the player in an attempt to destroy him.



If the player destroys the first three attack waves, the beautiful Spider Princess will briefly appear to encourage the player to continue the battle.



This is an exclusive Venture Line, Inc. Change-A-Game™



Spiders is also available in a 19" monitor cocktail table.

Spiders is manufactured under license from Sigma Enterprises

VENTURE LINE, INC.

3731 E. LaSalle Phoenix, Arizona 85040

Telephone 1-800-528-1442
(602) 967-5914
Telex 165-800

Copyright © 1981 Venture Line, Inc.
Phoenix, Arizona
All Rights Reserved

large truck every day the best choice would be to buy. But if moves are few and far between, leasing or renting may be the better choice.

Singer's company has done several things to reduce the cost of operating their larger trucks. The first thing is, in lieu of power lifts built into the truck, to use portable electric dollies. This reduces the weight, therefore increasing mileage. These electric dollies have also enabled one-man deliveries where they were not possible before.

Another innovative idea B&F Amusement has adopted is the conversion of its truck fleet from gasoline engines to propane. However, Singer does not recommend the conversion on small vehicles.

The propane company in Singer's area did the conversions and installed a propane tank on the premises for a guarantee from B&F Amusement to only buy the fuel from that distributor. Singer stated that gasoline companies at one time

would install tanks but no more. During gasoline shortages, having your own fuel on the premises could be the biggest advantage with propane. It is a cleaner burning fuel and there is no maintenance problem with propane. There is also an advantage since no one can get into the tanks. Most propane engines can also use gasoline in an emergency so finding fuel would be no problem.

Route Security

Jack Kerner of Mello-Tone Music Company, in beginning his speech on security, advised to start by hiring the right people. Look for a stable person (check previous work references), probably married with a family.

After making the selection, Kerner's company sends the person to an outside security service to be processed with a polygraph or voice test. He is then photographed and furnished with a picture badge which is worn at all times when on duty.

Combination keys are made for him with one route man not being able to cover another's route.

Mello-Tone uses guard dogs in its route vehicles with signs on the truck proclaiming the presence of guard dogs. Even robbers think twice before tackling a trained dog. When the dogs are sick or have the day off, tapes with dogs barking are played which tend to have the same repelling effect.

In addition to the dogs, burglar alarms and bars on the windows are installed in the vehicles.

One very clever defense to prevent the vehicles from simply being towed away, declared Kerner, is that Mello-Tone installs the tilt mechanisms from pinball machines onto the axle of the truck and if it is "tilted" an alarm goes off.

The vehicle has a vault inside that takes two keys to open and a sign stating such is predominately posted. The route man cannot open the safe.

—by Valerie Cognevich

One operation installs the pinball "tilt" mechanism onto the axles of its trucks, and if it is "tilted," an alarm sound.

Introducing International scientific U.S.A. P.C. Custom Boards!

We offer the services of designing and producing custom-made circuit boards, built to your specifications by our team of engineers. We have been supplying the computer industry with unique engineering abroad - and, now we are ready and able to service the U.S. video game industry. Try us out and we'll show you how good we really are!

Dealer and Distributor Inquiries Invited.

International Scientific U.S.A., Inc.
679 South State College Blvd.
Fullerton, California 92631

For More Information - Write Now!

Name _____

Company _____

Address _____

City _____

Telephone _____

State _____

Zip _____

Telephone: (714) 870-9491
TWX: 910-592-1291 IS USA FLTN



AMOA SEMINARS:

Still a long way to go, but moving in the right direction

The large number of operators attending the AMOA Show's seminar program October 29-31 at the Conrad Hilton Hotel in Chicago dramatically underscored the vital need for operator education and re-education.

In light of the great influx of new operators in the coin-op amusement business and also in light of the changing demands created by a dangerously volatile games market, hundreds of operators filled the seminar sessions in hopes of getting better "handles" on their businesses.

To the AMOA's credit, the national association expanded its seminar program to accommodate this pressing need for operator education. That in itself is an encouraging sign when one recalls that only a few years ago, the AMOA maintained it could not expand from a show/one seminar pattern because the show was locked into a set format.

Whatever the reason behind the AMOA's format change, there were definite indications the national association was trying to become more responsive to operators' needs. For instance, this year, for the first time the AMOA attempted to run concurrent seminars, a format introduced at the industry's spring-time Amusement Operators Expo two years ago. The format itself was a success for the AMOA; however, the seminars themselves fell short of the mark.

It wasn't that the topics chosen were not appropriate. Arcade management, computer operators, equipment cost analysis, and so on—they were all good seminar subjects that touch on the issues operators are vitally interested in. That's why all the seminars were packed.

The problem was simply that, for the most part, the seminars turned out to be too general, too elementary, or too vague. And one seminar, it appeared totally missed the mark.



IBM's Mataya

Interestingly, the standout seminar of the entire program was delivered by a non-industry person. Ara Parseghian, former Notre Dame football coach and now a television sportscaster, delivered a generalized speech on motivation that served as a sort of pre-show pep talk.

Relying heavily on his football experience for analogies ("There are parallels between sports and business," he said. "And there are parallels between business and life.")—Parseghian tried to illustrate what can be done if one approaches things from a problem-solving frame of mind.

"There's a solution to any problem," he said, "if you look for it. Every day is not a bright shiny day. We have crises sometimes. But that should create innovate ideas, new ways."

Manley Lawson, a Florida operator, in his seminar segment stressed that operators "must determine what they need on each piece of

equipment to be operating profitably."

For the most part, Lawson's seminar was elementary, perhaps too elementary, in fact. As one operator told another operator after the talk, "It was kind of basic, but I guess it's probably good that some people be reminded about it."

Lawson outlined his procedure for analyzing equipment costs. Figuring in overhead, direct costs, depreciation, and plugging into that a desired return on investment—he showed how an operator can determine how much each piece of equipment should be making.

The Florida operator noted that operators today must, when allocating their depreciation costs in the formula, figure in a little extra to compensate for inflation and the higher new game costs.

After determining what he should be making per piece, the operator should evaluate his locations to see which are earning above and which are earning below this figure, Lawson said. As a start to making the operation more profitable, Lawson suggested, "take the ten worst locations and make a decision about them."

Lawson said that by analyzing his equipment costs, he was able to get guaranteed minimums with about one-half of his locations. Guaranteed minimums, based on each operation's cost of doing business, appear to be the wave of the future. Blanket 50/50 or even 60/40 commission splits which do not include the guaranteed minimums leave the operator at the mercy of unpredictable game earnings.

Survival talk

Walter Bohrer, a Wisconsin operator, delivered a paper on "How Growth and Survival Mesh."

"Small business has special problems with respect to growth in corporate size," he said. "The limited resources and financial vulnerability

of small firms usually increase rather than diminish the risks."

He continued, "Converting from a small firm to a larger one is almost always fatal when the firm is unaware of the new dangers."

He then made the pointed observation: "Among managerial aims," he said, "survival of the firm should be placed before all others, *even before profitability and growth*" (emphasis added).

Bohrer explained himself by saying, "Most managers cannot see how anything can rank higher than profitability. Profits produce liquidity, they say, and profits spent wisely can buy growth. But that view ignores economic reality.

"Profits do not necessarily produce liquidity. Assets are usually needed to bring in profits from increased sales volume, and the result may be a reduction of liquidity. Growth should not be bought without careful attention to the ability of the organization to digest it financially and organizationally."

Though Bohrer's speech was perhaps somewhat too general and too wide-ranging to be covered in the time allotted (a case study or two would probably have been more effective), the real disappointment of

the seminar program was a session by Peter Mataya of IBM who was scheduled to speak on the application of computers.

With the change in the industry today, (i.e. the vast amounts of capital needed to continue to operate profitably), the "seat of the pants" operations are being replaced by computer based operations. Today's economics demand it.

Thus, there is a great interest today in computer hardware and computer software but little direction that today's operator has to go on. So a crowd of over 250 people crammed into Mataya's seminar hoping to get a handle, some answers for their questions.

What they got instead was a lengthy recital of what to look for in hardware packages—especially big computer packages that have little or no application for the vast majority of operators in this business.

And what came out in the question-and-answer session was that any discussion of computer hardware is irrelevant until after the computer software is chosen.

Operators in the audience asked questions about whether anyone had determined which software

packages (such as those being advertised in *Play Meter*) were most applicable to their needs. No one knew. Someone suggested the AMOA should investigate and offer to its member a report on the advantages and disadvantages of each software package. There was a loud applause.

Another operator said he had made the mistake of buying the hardware first then went shopping around for a useful software package afterwards and, as a result, suffered a significant loss.

It was repeated, the AMOA should investigate the matter of computer software packages and report back to its members on its evaluations.

But with the AMOA already backlogged trying to catch up on other programs it neglected for too long a period of time, it may be that such an evaluation may never come.

To its credit, though, the AMOA, by at least expanding its seminar format, may finally be working in the right direction. The only problem is there is so much lost ground the association now has to make up.

Today the format. Tomorrow the substance.

—by David Pierson

TOKENS • TOKENS • TOKENS

(STOCK AND CUSTOM)

FOR ALL MAKES OF GAMES,
TURNSTILES & VENDING MACHINES

PRIZE REDEMPTION & TRADE CHECKS

CASINO SLOT & GAMING COINS

Phone or write for catalog & samples

VAN BROOK OF LEXINGTON, INC.
P.O. BOX 5044, LEXINGTON, KY. 40555
606/231-7100

Copyright © All Rights Reserved

AMOA Notebook '81

By Dick Welu

#1. I watched amusedly as the inept waitress behind the Howard Johnson's snack counter struggled to figure out how much change to give a customer who had handed her a ten dollar bill. It took her about five minutes but eventually she managed the feat. I had stopped at the Interstate 90 oasis at the outskirts of Chicago with my wife, Sharon, and son, Dennis, on my annual drive to "the Big Show." The next customer wanted a chocolate shake. The waitress proceeded to pump chocolate syrup over her hand and then couldn't figure out how to shut off the shake mixer. She banged it on the wall a few times, then let it run. I was next, but inexplicably she turned to an old lady who had just wandered up. I was doing a slow burn as she served up ice cream to the upsurper. Finally she took my order for two Cokes. I paid for the drinks and handed on to Sharon. She sipped. "Ugh." I followed suit. The Cokes were room temperature

without ice. Welcome to Chicago.

#2. There was some good news and some bad news at the Conrad Hilton. The good news was that the registration area for AMOA had been moved. The bad news was that it was not improved. It was still a major chore to pick up one's entry badges. The two most popular booths, "Advance Registrations" and "Membership Registrations" were parked side by side at the end of a long narrow room. The crush of people was intense and brought out a foul crowd humor. Ever hear of cursing in six different languages? Surely the AMOA, after all these years, could devise some manner to speed up this process. Advance registrations, at least.

#3. If you wanted some peace, quiet, and room to scratch your nose, the place to head was the jukebox display area—or "Hard-times Alley" as it probably should have been titled. The gold and the glitter is still there—but the buyers

are over looking at frogs and turtles.

#4. Williams has this display pavilion with columns that they use at the AMOA on which they place two units of their hottest piece and dare anyone to get close enough to see it. I mean, I just can't understand the reasoning here, and everyone I talk to has the same gripe.

This year Williams, which ever since *Flash* has seemed to get the jump on its competition, unveiled a game called *Hyperball* and it was something else. It ain't exactly a pinball and it ain't a video and it ain't like anything you ever saw before. It's a hybrid of a pinball body and a rapid-fire machine gun which shoots balls at lettered targets aided by a digital readout selecting the correct target for maximum points, accompanied by electronic sounds blasting from a "Boogie Box" placed where the standard backglass once was but ain't no more. Got it? It had to be one of the most innovative games at the show, and if I could have got close



Token advice from the transit authority.

No matter what the size of your amusement machine operation, a token system can take away some of the headaches. We know, because we make tokens for the transportation business — where headaches are a way of life. Tokens take

care of security and cash control problems. They free up working capital, too. That's especially important in your business. And they're great for special promotions, too!

Whether you're using tokens now or not, you should know about Roger Williams Mint. We can provide immediate delivery on stock tokens, or quick delivery on custom tokens designed to your exact specifications. Our tokens are always uniform and dependable, so they'll operate trouble-free. So no matter who you are, you can expect more than token service from Roger Williams Mint.

Roger Williams Mint™

Northwest Industrial Park, 79 Walton St.
Attleboro, MA 02703 (617) 226-3310



enough to play it, I might have given it my coveted "Best of Show" rating. But since about four rows back was as near as I could squeeze in that crackerbox pavilion—tough luck, Williams. But *Hyperball* should be a sensation initially.

#5. Of Williams' video offerings, *Stargate* is a jazzed up version of *Defender*—which was only *Play Meter's* Game of the Year, so how far wrong can you go here. But "Son of —" is seldom as good as the original. (With the exception of *Super Breakout*.) The other entry, *Make Trax*, is a mystery to me. Definitely a *Pac-Man* type game, one of the two most popular '81 themes, *Make Trax* must have more to it than meets the immediate eye. At least my eye. Maybe it's a subtle game that'll grow on you.

#6. Pinball manufacturers are struggling for direction as is apparent with *Hyperball*. In a legitimate pinball mode, Williams presents *Barracora*, a no-nonsense, one level, cut-rate game with which they hope to attract buyers through the lower price. If it's not too late, it may be a step in the right direction.

Of the pinballs I played at the show, I found myself most attracted to a Segasa/Sonic electro-mechanical unit called *Cherry Bell* on display at the World Wide booth. It was just such a pleasure to play a game again where I could always know what I was doing rather than just flipping wildly.

#7. Bally and Gottlieb both have hitched their hopes to multi-layer offerings featuring the playfield-under-the-playfield concept pioneered by Gottlieb's *Black Hole*. Bally becomes *Elektra*, and Gottlieb's new dandy was *Haunted House*. Roger Sharpe can get down to specifics.

#8. Gottlieb also scabbled together a hybrid of its own, *Caveman*. It ain't a pinball and it ain't a video. It is both. A video monitor is mounted at the upper end of the playfield with a maze type game featuring cavemen and dinosaurs programmed on it. When the player shoots the pinball into a particular target hole, the video game is energized and controlled by a joystick. Points scored on the video game automatically are incorporated with those earned on the pinball playfield. When one of the dinosaurs munches your caveman on the video, the pinball kicks back into life as the ball drains into the outhole and the next ball commences. Novelty is

the name of our game—and this is certainly one. But I doubt if it will set a trend.

#9. "Cute" games were big at the show due, no doubt, to *Pac-Man's* popularity. Funny, a couple of years back, cute games were considered sure lemons as testified to by things like *Circus*, *Frogs*, and *Side-Trak*. But cute is in right now and there were little bugs and beetles and turtles and froggies everywhere. Looked like a zoo!

#10. Stern's cute game was simply, *Turtles*. Dennis, my 11-year old, said it was, "all right." I trust Dennis' judgement in matters like this. He is a game raconteur of sorts. *Turtles* chased by beetles. How can this game miss? The continuous music bugged me, though. And it's awfully cute.

#11. A Stern game licensed from Konami may be a real sleeper. *Strategy X* was Dennis' favorite game. I enjoyed it too. It's not fast paced—a recent game trend—but the task to maneuver a tank turret through succeeding more difficult terrain obstacles is challenging and fascinating. I think Dennis picked a winner in *Strategy X*.

#12. We squeezed into the Midway booth. Midway played it coy this year. Very few new offerings. Dennis tried a Namco licensed game, *Galaga*. Sharon played *Kick*. I watched. (The overhead monitors some companies provide are very helpful.) *Galaga* is a hyped-up *Galaxian* that is good but will suffer as a follow-up version. *Kick*? Very cute. And slow. Extremely cute. But it does have little *Pac-Man* heads in it. Honestly, I didn't get much of a *Kick* out of it.

#13. The plethora of animal/bug games! We passed *Piranahas* and *Funky Fish* and *Lady Bugs* and *Snap Jacks* and *Spiders* besides the aforementioned *Turtles* and a dandy called *Donkey Kong*. One began to get the feeling you had to be careful where you stepped and I itched a lot.

#14. The East and West display rooms were not fun. They bulged with people. Thank God, this was the AMOA's "sayonara" to the Conrad Hilton. It's either that or send out appointments to play the games.

#15. Sega/Gremlin logged in tough with four strong entries. A sure hit already is *Frogger*, a cute game, deceptively simple, but challenging. *Turbo* was a driving piece that whirled the player through cities, country, wind, and storm at a high rate of speed with a realistic feel.

Tacticians, a space game, added the new element of a "Tactics Time" which allows the player to build a protective barricade. The latter three may be all worth buying, but the gem was *Eliminator*, a space game with a *Star Castle* appeal. Also contributing to the Cinematronics flavor was the Sega/Gremlin feature that allowed two or four players to play simultaneously against the *Eliminator*. This game is one to watch. Hopefully the gremlins have been worked out of Sega/Gremlin's new X-Y color monitor.

#16. Atari, like Midway, was also playing its cards close to the corporate vest. They spread many units of two games all over their immense display area in the West Hall—the exact opposite of the Williams approach—so there was no excuse for not getting to play either *Centipede* or *Tempest*. (Before reaching the Atari booths, I had run into *Play Meter's* David Pierson who had reminded me of my failure to spot *Asteroids'* potential a few years back. A lot of people remind me of that. David also confessed his top choice of last year was *Battlezone*, an Atari product that eventually sold out at garage sales and flea markets. We commiserated our lack of insight.)

Let's try again. *Tempest* is a winner! It will make the big bucks. It was one of the top three games of the show. Like it or lump it, take that, Atari. (Atari execs in Sunnyvale are shuddering, "Oh no, he liked it. Why couldn't he run it down?")

#17. While playing *Tempest* I heard the sound of water splashing. Nothing would surprise me in the basement of the Hilton, but it turned out to be the *Frog Hunter* across the aisle, an electro-mechanical that challenges the player to shoot the Frog with a water gun. The frog spits back, by the way. I looked all over the machine for the name of the manufacturer but all I got was a case of warts.

#18. About this time on the tour, your legs are falling off, so it was with some relief that Dennis, Sharon, and I stumbled into the Rollertron booth. Rollertron wasn't showing a game; they were showing motorized roller skates. The skater holds a cable-attached control in his hand and theoretically, at least, zips his body all over town with ease. Unfortunately, they weren't for immediate rent at the show for a couple pair of tired Iowa legs.

#19. *Rolling Star Fire!* Exidy took

BIG SALE!

New and Used Equipment

OVER 3,000 USED GAMES IN INVENTORY!

Atari

Asteroids
Asteroids Deluxe
Battlezone
Red Baron
War Lords

Centuri

Route 16
Vanguard

Cinematronics

Star Castle
Armor Attack

Midway

Space Invaders
Deluxe Space Invaders
Pac-Man
Omega Race
Wizard of War
Gorf
Galaxian
Rally-X

Nintendo

Radarscope
Space Firebird

Stern

The End
Berzerk
Scramble
Super Cobra

Taito

Colony 7
Crazy Climber
Moon Shuttle
Qix

Williams

Defender

Factory Authorized Distributors

Atari • Williams • Taito • Nintendo • Stern • Seeburg • GDI
Exidy • Gremlin • Game Plan • Nichibutsu • Valley

MODERN VENDING SALES CO., INC.

7940 Pendleton Pike • Indianapolis • Indiana 46226

(317) 542-9207

1-800-382-4050 (Indiana)

1-800-428-4206 (outside Indiana)

its huge hit of '78, placed it in a sitdown, hydraulic controlled cabinet and turned the player loose. Synchronized with the video screen space action, the player moves back and forth, left and right, up and down, for a real "flying" experience. I had to drag Dennis out or he'd have stayed in outer space, rock and roll style. Exidy had only one model, a prototype, on display, but it was a crowd magnet.

Among its more sedate video's, Exidy had its excellent *Venture*, a dungeons and dragons game, plus new pieces in *Mouse Trap* and *Crush Roller*, both maze games, and *Victory*, a colorful *Scramble*-type game (the other most copied theme at the '81 show). Of the trio, check out *Mouse Trap*. Sure it's a *Pac-Man* spin-off, but it is imaginative and better done than most of the pretenders and does add a few fresh wrinkles.

#20. Cinematronics has been a mighty consistent producer since springing *Space War* on the galaxy in '78. This year Cinematronics brought back some of the features of that classic and wedded them with a touch of *Star Castle* to come up with *Solar Quest*—a game with a possible 500 skill level phases! *Solar Quest* is not a bad game, but I don't know if

there is enough "new" here to capture a large following. Space themes have been panned pretty heavily for the gold they contain. Not many nuggets remain.

#21. Dying of hunger, yours truly and family tried the Conrad Hilton coffee shop fare. We Iowans are often portrayed in the media and the arts as being "from the sticks." If not being from the sticks means having to pay \$3.⁹⁵ for a club sandwich that back home goes for two bucks less, I like the sticks.

#22. A potpourri of three: *Red Alert* by GDI, an XCOR offshoot, doesn't look like anything too novel at first glance. But the game is a real surprise and makes big money. I know. I've had one a few weeks already and it has amazed me. (I recommend going to additional missile launchers rather than the factory shipped level of three.)

Demon Eye from Irem (also the originator of *Red Alert*) is another variation of the *Space Invader* syndrome, but the effects are good and the challenge is there. Worth a look.

Small independent companies have a task cracking the game market big. Computran, a New Jersey based firm, has a fine game, perhaps the best offered by a "little

guy," called *Super Tank*. It's licensed from West Germany, of all places, but the action is fast as the player's tank tries to outmaneuver and destroy enemy tanks while clearing a mine field. Finishing a screen brings on the Super Tank target for bonus points. And that sucker is tough! The action is explosive, and it's more fun when two players team up to take on ol' Super Tank. I must say those Germans have always been good with tanks.

#23. Nothing like an ego booster. So when the rep at CompuGame lured me into playing *The Karate I* went for the gold. Smack a target area with your fist and watch as a karate figure inside a glass enclosure breaks a number of layers of simulated bricks to denote your strength rating. Two target areas are offered: Weak and Strong. Of course, once I had blasted the Weak target, I had to try the Strong. That would have been a quick fifty cents on the street. For some bars this piece could solve a lot of problems on nights that usually require a bouncer.

#24. "So what was Best of Show?" you are all asking. Far and away, it was Taito America's Qix. Taito kicked off the video boom with *Space Invaders*. Qix, also, may have

TOKENS • TOKENS • TOKENS
(STOCK AND CUSTOM)

FOR ALL MAKES OF GAMES,
TURNSTILES & VENDING MACHINES

PRIZE REDEMPTION & TRADE CHECKS

CASINO SLOT & GAMING COINS

Phone or write for catalog & samples

VAN BROOK OF LEXINGTON, INC.
P.O. BOX 5044, LEXINGTON, KY. 40555
606/231-7100

Copyright © All Rights Reserved

a profound effect on the game world. It ain't space; it ain't a war game; it ain't an animal game; and it ain't cute. What it is, is unique and different from any game on the market. "Trillions and trillions of variations," advertises Taito, which insists that Qix is pronounced "kicks." Pronounce it any way you wish, but pronounce it to your distributor, quick.

Taito's *Grand Champion* was the second piece to herald the return of the driving game. I specifically made Dennis drive this game and Sega/Gremlin's *Turbo* back-to-back and asked his judgement. He preferred *Grand Champion*. But remember, he's only 11.

#25. Nintendo has licensed most of its games to play widely in the U.S., but *Donkey Kong* has been brought here under Nintendo's own banner. And I can see why. This is another cute game, but it is quite a game and potentially may become the largest grosser of the show because of its appeal to the entire range of players from very young to old. (Qix may be too cerebral for youngsters, for instance.) An ape steals your girl away to the top of a structure. The player, a comic figure, climbs after, using ladders and jumping ability to dodge objects

thrown at him by Kong. Each level climbed becomes increasingly more intricate. A can't-misser, cute or not.

#26. Game Plan keeps trying and they debuted two worthwhile designs. Trying to bring back the table sport game ala Atari *Football*, Game Plan has *Dribbling*, a soccer game that comes in sit-down or standup cabinet models with foosball type handle controls. It's not bad.

The other piece, *Kaos*, is an eye catcher, and I applaud Game Plan for a new approach. This is a vertical maze game featuring a man chasing dollars that are dropping between cracks to the bottom of the screen where they turn into dragons. The dragons then chase the man. The man can turn himself into a king temporarily and slay the dragons. All this action is coupled with points and the incentive of achieving bonus men at pre-set point levels.

#27. What can I say about Konami—a Japanese company best known for its games licensed by Stern—? These people are mind-boggling. They are turning out games so fast that they don't have time to name them! At the show they displayed *Type 102*, *Type 104*, *Type 106*, and *Type 110*. (Don't ask me what happened to *Type 108*. Must have been a dog!) And they were all

pretty decent. What other games did they design? Well, try on these: *Scramble*, *Super Cobra*, *Frogger*, *Turtles*, *Strategy X*, *Tactician*, *Ultra Dome*, and *The Hustler*, a video pool game shown by Dynamo and others. And they are all solid games. How do they do it?

Besides that, Konami gets the annual Welu sweepstakes award for best-looking models working the booth, two stunning blondes who could hand out brochures for me all day. When I announce this award, my wife usually says, "It's time to go."

#28. I got her back this year though as I caught her flirting shamelessly with a lecherous robot working the Summit Distributing booth. The robot offered her a token to play a large slot machine and she brazenly accepted. It was just disgraceful. "How could you?" I asked. "What does that robot have that I don't?"

"Honey," she answered, "did you hear his sexy yodel?"

#29. I peered over Sharon's shoulder as she accepted her print-out from the Bio-Rhythm machine. Her sex line was very low. I had been ready to leave for home. "Let's take another tour around the show," I said. ●



BELAM

THE FINEST WORLD WIDE EXPORT SERVICE

Long Island's Only Distributor

Florida's Leading Distributor

BELAM DISTRIBUTING

A division of the R. H. Belam Co.

1 DELAWARE DRIVE
LAKE SUCCESS, LONG ISLAND, N.Y. 11040
TEL: 516-488-5600 TELEX: 221568
CABLE: BELAMEX NEW YORK

1541 N.W. 165th ST.
MIAMI, FLORIDA 33169
TEL: 305-621-1415

Our service is second to none. One of the largest spare parts inventories in America.

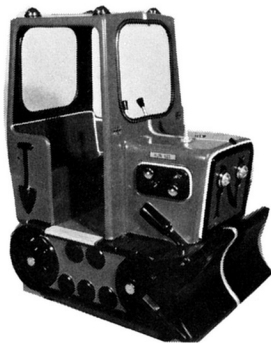
THE MOST PROFITABLE KIDDIE RIDES—EVER

over
70
items

- Trains, Bumper Cars
- Cartoon, Ballon and Egg Machines
- Carousels, Boats, Animals, etc.

ONE OF THE LARGEST SELECTIONS AVAILABLE

Featuring
this month



THOMAS LEON'S KIDDIE RIDES AMERICA

524-2nd St. Rock Island, Ill 61201

309/788-0135

Cultural Notes...

Television drama producers Richard Levinson and William Link (of the "Columbo" series and numerous single dramas) report a theory, in their current book "Stay Tuned," that the conventional means of viewing new motion pictures, the theater auditorium, "as we know it, is soon to become extinct."

The reported theory, proposed by a scholar in the study of humanities, is that "Cable TV, satellite broadcasting, cassettes, or some form of videodiscs will *relegate the local movie house to a dinosaur boneheap*, and the vast majority of (fiction) films will be made for television and viewed in the home."

[Emphasis added; Levinson and Link; St. Martin's Press, New York, 1981.]

If that scenario, of what the authors term "a baroque hypothesis," comes to pass, there may be an impact on that area of nagging worry to coin-op, the home-player electronic game mode which is plugged into a television set.

Video games, in the arcade form alone are, on the whole, already higher income earners than the movie house receipts (exclusive of popcorn sales), according to several analysts. If in the near future, first-run movies are largely taken out of the public admission theater and plugged into "pay TV," then might a void be created for entertainment *outside* the home? And might that vacuum—a hunger for something inaccessible on the old familiar Zenith set—not be the ever-more-creative games which underpin our industry?

On the home front and saturating the TV screen, by one estimate over 50 million homes will have cable hook-ups by 1985, with 70 percent of those households subscribing to some form of pay TV. And by the mid-Eighties, projections are that consumers will own some eight to ten million video cassette recorders to augment their home entertainment.

Rather than dreading some of the home fun modes, at least, the coin industry could be able to look forward to their expansion—with then-permanently darkened movie houses becoming locations for siting coin-op videos and pins. It is food for thought.

Has anyone contemplated \$4 coinage on arcade games by 1990?

—R.E.T.

Veteran Player's Views

The letter of Mr. Harold Hartigan, published in *Play Meter* ("A Player's View," August 15), proved interesting, enlightening, and provocative. I am heartily in accord with the sentiments he has expressed. Moreover, it is my desire, both as a coin-op patron of some years and a small businessman, to add my own views to an industry topic which has just aroused widespread interest.

I believe that it is generally conceded that the American buying public will cheerfully invest more of its money, expend more of its energy—upon sports, amusements, and diversion in general than it will upon what we usually think of as "necessities." If any proof in support of this assertion were needed, then it's a simple matter to size up the vast multitudes which jam-pack the football and baseball stadium or the racetrack grandstand, or even to envision the excited crowds who follow their favorite stars around the golf course.

Now, doesn't that forcibly remind us of another vast, but widely scattered audience—that which seeks a diversion outlet by simply working the flipper of flashy

new pinball machines?

A casual observer might regard the amusement machine as a mechanical device which provides entertainment to an enormous army of patrons—with incidentally a trivial cost in either time or money. Then we have only to include the additional facets of profit to the manufacturer and distributor involved in this amusement machine. Hold everything—we've a long way to travel yet!

The manufacture of these machines—looking from the perspective of the humble layman, outside the coin machine industry—must surely be a very complicated type of production; there are, seemingly, some tough production problems to be resolved, such as procurement of raw materials in large volume, with lavish colorful patterns and designs...

There is also the involvement of skilled artisans and other types of labor. This brings into the picture the separate divisions in management to handle the tough problems of financing, legal problems, and—please, let us not forget—the assessment of various taxes.

But the "ball game" is not over until the coin-op industry has faced up to the additional problems of transportation, distribution, advertising, and marketing, and these are large-scale operations within themselves. During my business existence, I have been variously situated with the railroads, the manufacturer (steel), and the building contractor. I have not ever had the good fortune of seeing the inside structure of the amusement game industry. However, I'm aware of the similarity of the various national industries as to factors of production, transportation, and marketing. Most important, from somewhere within his reservoir of strength, the business executive must come up with guts and will power—the grim persistence to battle against the monsters of breakdowns, legal opposition, vigorous competition, shipping delays, or whatever other unfavorable aspects.

Now, it is extremely difficult for us laymen to get a clear vision of the enormous commercial stimulus and the vast purchasing power of the varied amusement industries *en masse*. An earlier article in *Play Meter* in which there was the startling disclosure that the 1980 volume of sales, for pinball and all of the closely related amusement devices, soared upward into the billions—did indeed provide a stunning news item. Of course, it is quite obvious that the coin-operated amusement industry has absorbed its share of adverse criticism; that it has been forced to battle its way clear of a maze of legal entanglements. But is this not usually true of any large-scale commercial development?

From where I look, it seems that the coin-op machine has made many progressive changes—all for the better. I can look back to the dull, rather lackluster simplicity of the original games. True, these simple-Simons served their purpose nobly; they were pioneers in what was to become a large-scale field of universal diversion and amusement. They did provide their patrons with much-needed relaxation; they always seemed to show up at the right place at the right time. They appeared at the bus station, the office building lobby, and airport, and in the larger restaurants in the big cities.

Yet, the departure from ancient era, the changeover to the color and sparkle of our modern games, is amazing. I believe that any fair-minded group or individual critic is now forced to acknowledge that the coin-op machine, as a medium of skill, diversion, and timely relaxation, has become a national tradition.

In any event its advantages can be said to far outweigh its disadvantages. Congratulations!

Herb Skellig
Winder, Georgia

What's New?



is new!

It is the newest video game offering Challenge, Fun, Profits . . . from Game-a-Tron. "An innovative leader in video games."

WATCH FOR IT!!

GAT
GAME-A-TRON

GAME-A-TRON CORPORATION,
931 WEST MAIN STREET, NEW BRITAIN, CONNECTICUT 06051
Telephone: (203) 223-2760



The Greenwald four-coin chute is here . . . and it's simply a knockout!

Our UNIVERSAL-FOUR coin chute — a Greenwald original design — lets you increase prices in 60 seconds from 25¢ to \$1.00, without changing coin chutes.

GREENWALD INDUSTRIES

Division of Walter Kidde & Company Inc.
KIDDE

1340 METROPOLITAN AVE., BROOKLYN, N.Y. 11237 • TEL. 212 456-8900
TELEX: 1-2281 CABLE ADDRESS: GREENCOINS NY

Southwest Vending draws a big crowd to the first fall showing



Following closely on the AMOA show dates, Southwest Vending Sales' November 7-8 "Fall Game Extravaganza" in Dallas drew a whopping attendance of operators viewing the new lines of equipment in

their home territory rather than at the AMOA.

Southwest's President John Gatens, Jr. estimated the crowd at 3,000 persons. Factory representatives of all lines represented by

Southwest had made fast tracks to the Dallas showing on the heels of the AMOA in Chicago. A healthy package of door prizes valued at over \$35,000 was donated by the manufacturers, including video and pinball games, support equipment, and a vacation for two in Atlantic City. Factory-sponsored technical seminars were held, and the Dallas Arcade School was represented by Nathan Bush.

So, it was as if a major industry show were held in one of Dallas' larger civic center facilities shortly after the national association show of the pre-Halloween week. It was, in fact, the first distributor showing of the season.

Prizes awarded by drawing included: an *Asteroids Deluxe* cocktail table game from Atari; Centuri's *Challenger* upright; Cinematronics' *Solar Quest*; Exidy's *Venture* cocktail; Gottlieb's *Volcano* pingame; Innovative Systems' six-coin sensor; Stern's *Moon War* cocktail model; Taito's *Moor Shuttle* video; U.S. Billiards' *React* tabletop games; Williams' *Barracora* pin; games from Gremlin and from Game Plan; and from Bally/Midway, the Atlantic City trip for two, airfare-paid from Dallas.

And while Christmas came early for the lucky winner of the prize bonanza, a healthy business was reported by factory people on hand, said General Manager Tommy Chatten. Among the happiest appeared to be Gatens, whose distributorship had attracted 3,000 persons, many of them getting their first look at the new equipment of the season, including pool tables, music boxes, videos, pins, and support equipment.



Factory reps clown a bit with their Southwest 'derbies' (top photo, above), then settle down for a group shot with Southwest's President Gatens, third from left, front row. In upper right photo, Exidy's Chris Minarik with new Mousetrap at show.

Video game is donated for kids' hospital therapy

In possibly the first instance of a video game being used for children's hospital therapy, the Leisuretron Company has donated one of its amusement games to the Texas Children's Hospital of Houston.

The table model video was delivered to the playroom in late October and received a warm welcome by the boys and girls of all ages, hospital spokesmen rereported.

A volunteer at Texas Children's Hospital commented about the positive effect the video game has had on the children's spirits: "One little boy was scheduled for surgery and he was worried about losing his champion title in the friendly competition the children were holding. I believe he recovered and got out of bed faster because he was anxious to defend his championship," said the hospital worker.

According to Elaine Moore, assistant public relations director of the hospital, "The video game provided the children with an opportunity for play—a very, very important aspect for children that have to be in the hospital."

The video game, Game Plan's *Tank Battalion*, requires opponents to command their army of tanks and conquer their territory in a given amount of time.

Charles Talbert and Ned Snyder, assistant executive director and general manager, respectively, for the Leisuretron Company, noted that electronic video games, besides being fun entertainment, are an exercise in eye-hand coordination. "They are extremely fast paced and require instant decisions and hand movements by the players," said Talbert.

Genevieve McClelland, director of volunteers at Texas Children's, concluded: "On behalf of all the women's auxiliary members and the patients at Texas Children's Hospital, we wish to extend our thanks and appreciation to the Leisuretron Company of Houston for bringing the *Tank Battalion* video game to the children who will now and in the years to come receive

great pleasure from this donation."

(The Leisuretron Company has recently moved to its new Sales and Service Center locate at 8955

Interchange Drive, just off the 610 Loop past the Houston Astrodome. the new phone number for Leisuretron is 677-8100.) ●



Observing two excited children enjoy the new video game donated to Texas Children's Hospital are [photo above] Charles Talbert, Leisuretron executive; Elaine Moore, hospital spokeswoman; Genevieve McClelland, hospital volunteers director; and Ned Snyder, Leisuretron general manager. Below, the children plan their winning strategy on *Tank Battalion*.



Coin-op Media Quiz

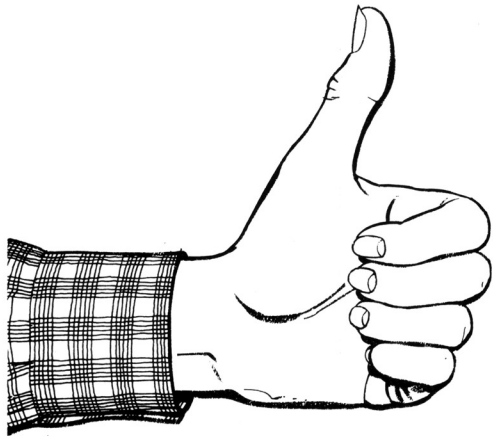
by Bill Brohaugh

1. a) In what film did Gene Kelly dance amongst bumpers and spinning gates on a giant pinball playfield?
b) Who was his female dancing partner in that movie?
2. a) Name the two artists who recorded the two most popular versions of the song, "Pinball Wizard."
b) Name the person who wrote the song.
c) Name the rock opera and movie the song (and many pinball machines, too) was featured in.
3. What is the pinball machine in Archie Bunker's Place, the bar in the TV show of the same name?
4. a) In the movie, *Tilt*, what was the game that was rigged with a magnet by a kid trying to cheat Charles "The Whale Durning"?
b) In that movie, Brooke Shields wore a pair of what could be called designer jeans. What was written across the rear pockets of those jeans?
5. Name the TV show whose name appears on two pinball machines—one officially, and one unofficially.
6. a) Name the NBC game show on which contestants played a gigantic pinball machine. Celebrities operated one flipper, contestants the other.
b) Bonus: Name the host of that show.
7. What is the pinball machine in Flo's Yellow Rose, the bar in the now-defunct TV show Flo, which was spun off from Alice?
8. a) In the comedy film *So Fine*, star Ryan O'Neal creates a new craze in jeans when the pair he's wearing splits when he bends over to look at something. What is that something?
b) How did that something get into the condition it's in when O'Neal looks at it?
9. a) In what movie is the lead character counseled about his future by an arcade operator?
b) Bonus: Who was the actor playing that lead character?
10. Laurel and Hardy appeared on two different pinball machines. Name them.
11. Several pinball machines have been tied specifically to movies and TV shows. How many of them can you name?
12. In one episode of *Barney Miller*, a squad room detective explains that he was late because he was doing so well on a video game. Name the game.
13. What Walt Disney movie features a *Starfire* video game prominently?
14. *Mork*, from the series *Mork & Mindy*, professed his love for a particular video game in one of the episodes of the show. Which game?
15. a) A Saturday Night Live skit took viewers "inside" the spaceship of a popular video game. Name it.
b) What was the name of the pilot of the spaceship in the skit?
c) What did the spaceship shoot down at the end of the skit? (Hint that won't help you: the object shot down is not a part of the original game.)

Scoring:
Give yourself 3 points for each a question answered correctly, 2 points for each b question answered correctly, and 1 point for each c question answered correctly. Give yourself 1 point for each machine you named in question 11. Total possible points: 71.
60-71: You have seen every movie ever made, and have played every coin-op game ever created.
40-59: Your knowledge of games history is remarkable. Consider your an expert.
20-39: You had to look up most of the answers, like I did.
0-19: You would rather play pingames and videos than waste time watching TV.
Your score may be lower, but you're probably smarter than those in the upper ranks.

9. a) *American Graffiti*
b) Richard Dreyfuss
c) *The Goodyear Blimp*
10. Chicago Coin's *Hollywood* and Bally's *Flicker*
11. Bally's *6-Million-Dollar Man, Flash Gordon*, and *Star Trek*; Gottlieb's *Charlie's Angels, Sindbad, Buck Rogers, James Bond, Pink Panther* and *Close Encounters of the Third Kind*; Stern's *Meteor*; and Hankin & Company's *The Empire Strikes Back*. (*Hulk, Spider-Man* and *Superman* are tied into the comics, not specifically the movies or TV shows based on those comics.)
12. Atari's *Missile Command*
13. *Midnight Madness*
14. *Midway/Taito's Space Invaders*
15. a) Atari's *Asteroids*
b) "Eddie Atari"
c) *The Goodyear Blimp*

1. a) *Xanadu*
b) Olivia Newton-John
c) Peter Townsend of the Who
2. a) *The Who* and Elton John
b) *Peter Townsend of the Who*
c) *Tommy*
3. Gottlieb's *Hit the Deck*
a) Gottlieb's *300*
b) The words, "Pinball Champ"
5. *Star Trek* (Gottlieb 1971, Bally 1979; Bally was the official version)
6. a) *The Magnificent Marble Machine*
b) Art James
7. a) Gottlieb's *El Dorado*
8. a) *Bally Space Invaders* pingame smashed in the street.
b) A volatile character named Mr. Eddie (played by Richard Kiel) tilts the machine, gets mad, carries it home with him, and smashes it on the street.



THUMBS UP...

that's how
operators
describe

MONROE



Selection



Service



Delivery



Terms



Parts Backup



Advice

Representing:

Atari, Stern, Amstar, Bally, American Shuffleboard, Centuri, Cinematronics,
Exidy, Electro-Sport, Game Plan, Gottlieb & Co., Sega/Gremlin, Irving Kaye,
Intermark, Lektro Vend, Midway, NRI, Nichibutsu, Nintendo, Omega,
Rock-Ola, Music & Vending, Taito, U.S. Billiards

MONROE DISTRIBUTING, INC.

Cleveland
2999 Payne Ave.
Cleveland, Ohio 44114
(216) 781-4600
Telex 98-0197

Hialeah Lakes
Palmetto Lakes Industrial Park
5301 N.W. 161 Street
Hialeah Lakes, Florida 33014
(305) 625-6666

Cincinnati
4820 Industry Dr.
Cincinnati, Ohio 45014
(513) 223-0550

**LOOK FOR OUR NEW OFFICE IN ORLANDO, FLORIDA
OPENING IN JANUARY**

INTERNATIONAL COIN NOTES:

Marcos ousts videos in Philippines

In the name of stopping the corruption of youth and their "money-wasting and time-consuming diversion," Philippines President Ferdinand Marcos has pulled the plug and banned video games from that country.

Civic groups had called Marcos' attention to the supposed "devilish contraptions" as making Filipino young people vulnerable to delinquency, according to press reports.

Marcos ordered police to enforce the ban on electronic games "without any exception." Under previous powers given to Marcos during martial law, the president banned pinball and slot machines in 1974. His new directives, issued under the broad powers he kept when martial law was lifted in January 1981, includes video games in the same ban.

Two bills had been filed in the National Assembly to ban or regulate the machines. Marcos retains the power to act when he feels the assembly is acting too slowly.

Marcos order the estimated 3,000 coin-operated videos dismantled, destroyed, or surrendered to the military within 15 days after November 19. Failure to comply could net operators a \$620 fine and up to 12 years in prison, said press reports.

Associated Press reported that youngsters continued to gather "around isolated machines in backstreet stores where sophisticated video games provided a one-peso (about 12 cents) space-age diversion from the surrounding poverty."

Filipino newspaper editorials praised Marcos action. The *Times Journal* called video game centers "breeding grounds for petty corrup-

tion which, if left unchecked, could eventually engulf a schoolboy and make him a liability to society."

Children were not as impressed with this logic, apparently. The *Manila Daily Express* quoted an unidentified teenager to say, "My God, it's the computer age. What do parents expect us to do? Play cops and robbers?"

Supervisor of Harrison Plaza shopping mall, Claro Carlos, told the press that Marcos' action came as a surprise. He said operators expected some kind of regulation to keep the machines away from schools, but not a total ban.

Play Meter has contacted a consulate of the Republic of the Philippines for details of the video games prohibition and will relate the official statement, when provided, in a later issue of the magazine.

Gaming enters People's Republic

Western-style gaming machines have been introduced for the first time in the People's Republic of China. The slot machines, specially-built by Aristocrat of Sydney, Australia, were installed with government cooperation in a lavish new club in Canton designed to attract Western tourists.

The Tung Fang Bilingual Hotel, in Canton, China's Guangzhou area near Hong Kong, features the Chinese Government's first western-styled club. The International Club, as it is called, is a joint venture between the Chinese province and Hong Kong capital company. The membership-only

club sports a French sidewalk cafe, a high-volume sound discoteque—and a game room.

Graeme Fullerton of Aristocrat, who was instrumental in installing coin machines in the luxury club, said the game room is "decorated to a high standard" and provides a site for 100 slots. He told the trade press that the machines will be laced with specially minted tokens, unique to the club, which can be bought only with foreign currency certificates (as with all other purchases in the Canton club).

The slot machines' play format is standard except that the tokens

must be redeemed before leaving the club and prizes are given for major jackpots.

Fullerton commented that he was "extremely impressed with the professionalism displayed in this operation and the cooperation of Tung Fang management and government authorities."

A question remains open, of whether western-type videos and pinballs may one day be introduced in the People's Republic. A report to *Play Meter* last year was that pinballs were shipped there on an introductory basis, and the pins were kept in specified buildings, away from general public play.

Coin games' apache

Electronic pinball and video games, almost standard equipment in French bars and cafes, will be taxed in 1982 as a revenue measure under the proposed budget of the present Socialist government of France.

In the budget outlined in October, all machines' taxes are expected to produce \$18 million worth of revenue.

Presently not taxed at all, the levy in 1982 will be a stiff \$273 annually per machine.



Dynamo

Dynamo Announces
THE BIG D
POOL TABLE

**Built with STEEL and ALL PLYWOOD CONSTRUCTION.
Engineered for the Smart Operator.**

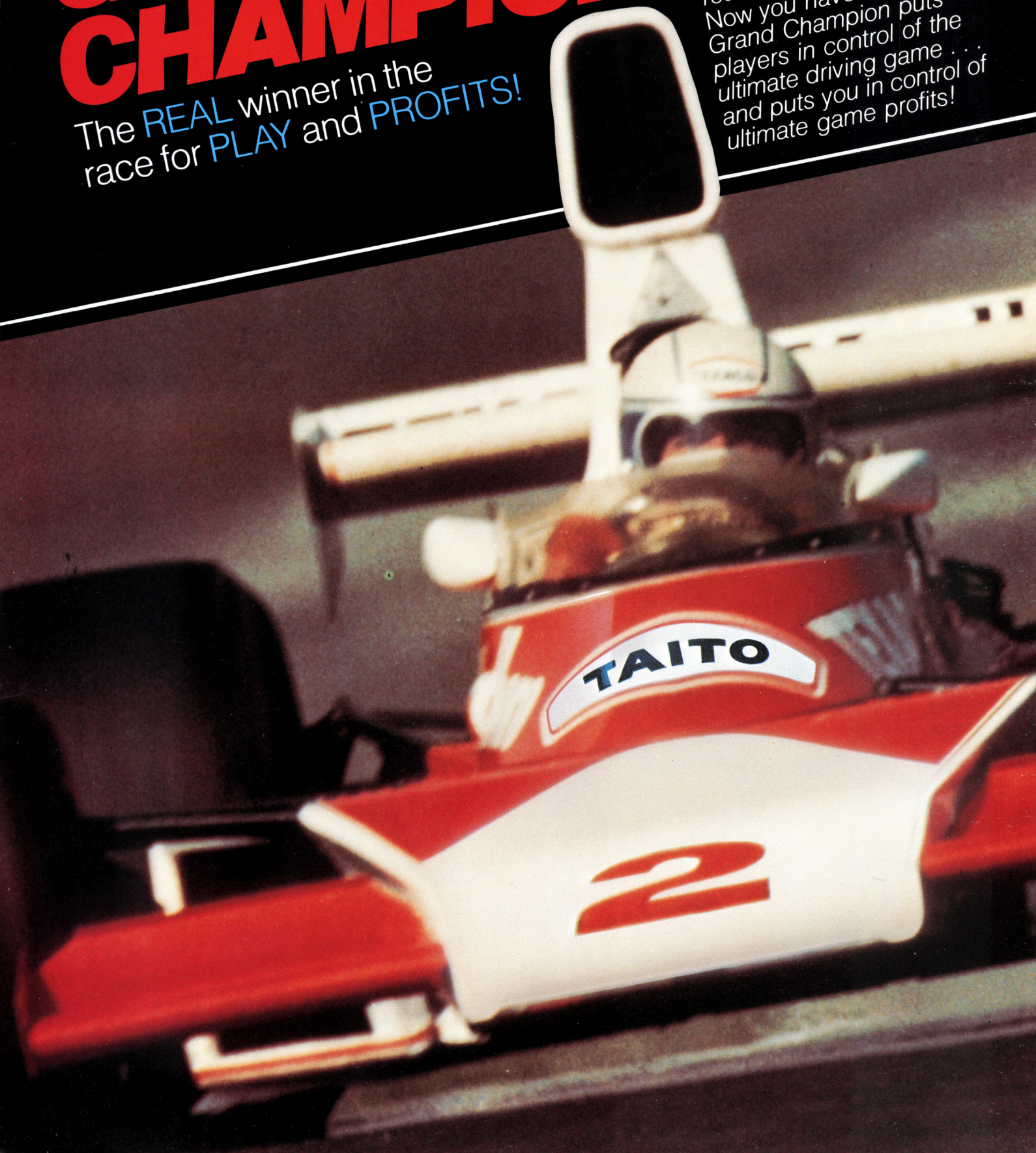
For further info: phone (800) 527-6054, (214) 641-4286, Telex: 732-432
1805 South Great Southwest Parkway, Grand Prairie, Texas 75051



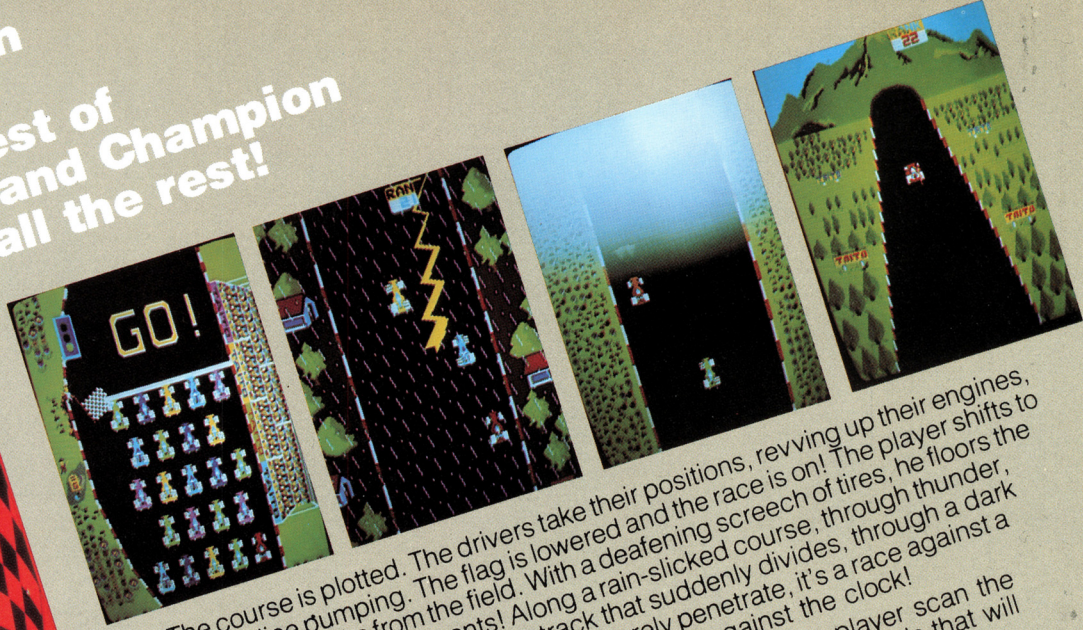
GRAND CHAMPION™

The **REAL** winner in the
race for **PLAY** and **PROFITS!**

You have the drive.
Now you have the machine!
Grand Champion puts
players in control of the
ultimate driving game
and puts you in control of
ultimate game profits!



For real European style racing and a challenging test of driving skill, Grand Champion wins out over all the rest!



The course is plotted. The drivers take their positions, revving up their engines, their adrenaline pumping. The flag is lowered and the race is on! The player shifts to high gear and breaks from the field. With a deafening screech of tires, he floors the accelerator to lap his opponents! Along a rain-slicked course, through thunder, lightning, rain, sleet, snow, along a track that suddenly divides, through a dark tunnel and a blinding fog that headlights barely penetrate, it's a race against a field of speeding daredevils . . . and it's a race against the clock!

As he burns up the road, the Radar Screen lets the player scan the positions of the other cars as it warns him of the realistic hazards that will challenge his skill, his perception, his ability to react quickly. The Position Indicator flashing his progress all through the race, together with words of encouragement and challenge, urge the player on faster and faster . . . until a collision takes him into the pit and slows down his race to the finish! If a player is ranked among the top cars at the end of the race, he gets a chance to conquer the next, even more difficult course!

Grand Champion's sleek, space-saving, fully-loaded cabinet is "Taito tough" and quality-built to give you more miles per model. Domestically manufactured, it positions the controls within easy reach of all players.

**Grand Champion.
The name says it all!**

Upright:
Height: 171 c/m (68")
Width: 61 c/m (24")
Depth: 87.5 c/m (35")
Crated Weight: 136 kg. (300 lbs.)

For technical service, call the hot line toll-free (except in Illinois): (800) 323-9666.
TAITO AMERICA CORPORATION
1256 Estes Ave., Elk Grove Village, IL 60007
(312) 981-1000, Telex 25-3290



Times get tougher for video operating in Britain

Economic recession was nipping doggedly at the British video industry by early October, with heavy employment reductions reported in a number of manufacturing and operating firms "almost daily," according to the London trade press.

The recessed economy of Europe generally was confirmed by U.S. manufacturing spokesmen in conversations with *Play Meter* recently, and those executives pointed to the unfavorable trading in the American dollar as a key reason for depressed U.S. sales on the Continent.

In Britain, the downturn in operators' demand for product was reflected in Bell-Fruit Manufacturing's Chairman Bill Pilkington giving a radio news interview on the effects seen by the coin machine trade, as with his own company reducing its work force by 700 persons by as much as 10 percent before the end of October.

The managing director of Bell-Fruit, Jim Stevenson, said, however, that his company is "lucky." He explained, "We have three successful AWP (fruit) machines at present, our market in the United States and Germany is improving, and we recognized very early the downturn in video games. At one time we were producing 200 video games a week, but we stopped production two months ago when we found that there were no really strong games to follow *Puckman*"—referring to the Namco-licensed game which is marketed in the U.S.A. as *Pac-Man* by Midway under license.

Nevertheless, the down trend had moved Bell-Fruit to terminate some 80 employees, the managing director indicated.

At Hazel Grove Music, a major pool table manufacturer, which also operates and distributes its line, spokesman Barrie Denton was quoted in the trade press as saying that his firm "has started to cut down

on everything," beginning with overtime and then jobs that are not justified by sales—and even plans for a Christmas party. "It has been principally due to the recession," said Denton.

At the Music Hire Group, Leeds, Joint Managing Director John Townsend told the press: "In our operations we cut back 10 percent in manpower this year. The reductions have mostly been in the service and collections side. In collections we cut down the frequencies from weekly to fortnightly collections wherever it was feasible and we have streamlined our service to make it as efficient with a smaller staff."

Michael Green, speaking for Alca Electronics of Oldham, another major manufacturing, operating, and distributing organization, also noted its cutbacks due to the recession. Alca was also economizing where possible, to avoid further lay-offs.

Associated Leisure, London, also reduced its work force by 11 percent, said Roy Ashworth, managing director. This fiscal year's picture was due to several factors, he

said. "We recognized early on that certain sectors such as video games and jukeboxes were going to suffer a downturn and we made appropriate plans. We are fortunate that a majority of our business is with AWP machines, which are faring better than other products. Nevertheless, we had to streamline our business on a day-to-day basis.

Associated Leisure Games, the manufacturer, had been heavily affected, with production down from a peak of 140 a year ago to a current situation of moving out 30 games a week. "We had to lay off people in batches, both from A.L. Sales and from A.L. Games," said Ashworth. He pointed to a combination of market saturation with video games, the downturn in jukebox profitability and the recession in Britain.

However, he added: "Apart from reducing manning levels, the main emphasis of the A.L. economy drive has been focused on reducing stocks and eliminating waste. As a result, A.L.'s borrowing has been eliminated, reinforcing the group's tremendous financial strength."

GOIN MECHANISMS INC.

817 Industrial Drive,
Elmhurst, Ill. 60126 - 1184

Manufacturing Coin Mechs, Domestic And Foreign, for
the Coin Operated Amusement Machine Industry

- Face Plates
- Midget Channels
- Complete Door Systems
- Coin Boxes
- Anti-Flip Kits
- Anti-String Kits
- String Cutters

Customer Service
(312) 279-9150

Ray Nicholson

Ron Rollins
Frank Schubert

Distributors, operators recognized

Valley's promotions are rolling

More than 2,500 Valley pool table distributors and operator-participants had a stake in the finale of Valley's "Sail-Away" program when winners were announced October 31 at the AMOA Show.

"The success of our program was very gratifying," reported Chuck Milhem, Valley president. "We received hundreds of entries from all sections of this country and Canada, almost on a daily basis. But the most important point is that we proved the pool table is alive and well. This program demonstrated that distributors and operators are still well aware of the proven profit potential of the pool table."

The grand prize, a luxury Caribbean cruise aboard the "floating resort," Song of Norway, was won by the team of Sandler Vending Company of Minneapolis and its operator-participant, Advance-Carter Company, in the suspenseful drawing at Valley's exhibit area. The prize includes the 7-day cruise for two, plus \$500 in cash and air transportation from the winner's city to Miami and return. Both distributor and operator winners received cruises for two.

Second prize, a Valley Victor II home pool table, was claimed by Central Distributing Company/Omaha; a matching table by its operator co-winner, K-D Music.

A set of PGA Emblem golf clubs, third prize, went to Brady Distributing Company/Charlotte, North Carolina, with a second set awarded to Mountain Music, co-winner operator.

Fourth, fifth, and sixth prizes were Victor portable desk calculators, which went to Valley distributors Lind Vending Sales & Service/East Hartford, Connecticut; Advance Automatic Sales/San Francisco; and Sandler Vending Company. Co-winners were AE Truck Stop & Vending, Pettey's Vending, and Advance-Carter, respectively.

Digital quartz alarm clocks were awarded to seventh through tenth

place winner-sets. An additional fourteen prizes of one dozen PGA golf balls went to both members of fourteen distributor-operator teams.

Valley 'ambassador' tour

The itinerary of Bill Nemgar, Valley's "Traveling ambassador," upcoming across much of the United States and parts of Canada, will include visits to distributors, operators, and location owners.

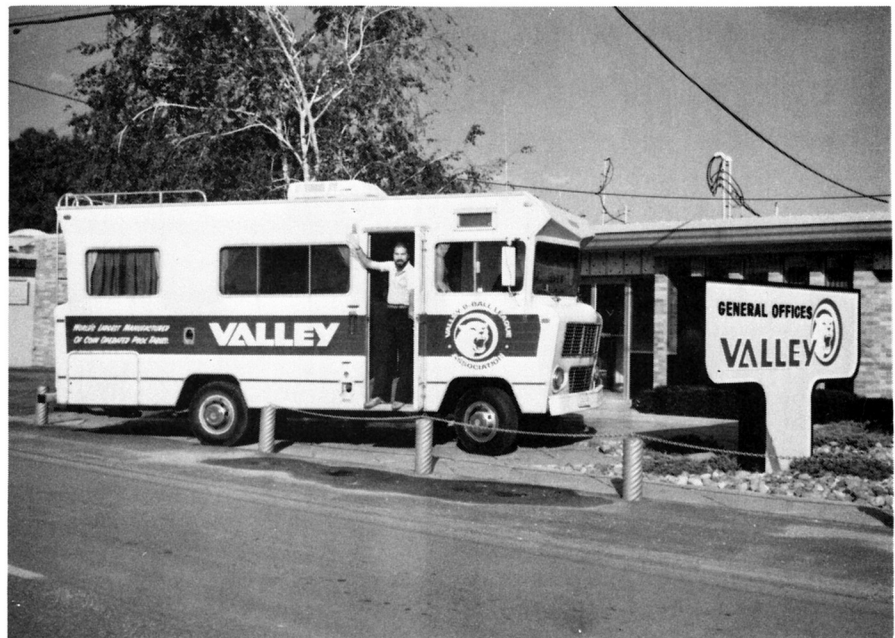
The Valley 8-Ball League consultant/coordinator will be driving a 21-foot motor home identified with the Valley logo and slogan, "The World's Largest Manufacturer of Coin-Operated Pool Tables."

The unit's initial route will include stops this fall from the Midwest through the central states to San Francisco, then north to Vancouver, British Columbia. The return route will be through the Canadian provinces and the northern U.S. tier of states, to Chicago. Future visits to other sections of both countries are being scheduled, according to The Valley Company. While the

primary purpose of the tour is to promote the booming league idea, Nemgar will also promote Valley products—coin-op and home pool and Bumper Pool tables and coin-op soccer tables. He will give emphasis to the full Valley line of jointed and four-pronged American-made cues, featuring wood construction and without artificial weighting.

"This is a new way to keep the 8-ball league concept moving and growing, and to sell Valley products at the grassroots level," said Nemgar. "And I plan to contact everyone possible, who will benefit from the formation of 8-ball leagues." He noted that, despite the growth of the league idea, still many operators do not think it's for them or have not yet been shown how they will benefit.

"I'll be showing operators how to form leagues; location owners how to sign-up teams; distributors how they will sell more tables—all through leagues, which generate more business and higher profits for everyone, right down the line," Nemgar concluded. ●



Nemgar sets out on promotional tour.

The Games People Don't Play

'Blue Sky' Salesmanship...

One of the by-products of the current video game craze is the proliferation of games and game marketeers. There are very few outstanding games, and a limited number of games are profitable enough to be good investments. Outside the circle of "hot" games, most of the others are producing inconsistent incomes at best and those games themselves are of spurious natures, cheap copies of more successful pieces.

The purveyors of these putrid products are also often of doubtful character. They prey on an ignorant public who are swayed by overstatements of earnings potential and convinced by under-researched national media headlines. The Wall Street Journal, TV Guide, and other respected national publications and electronic media have recently tossed out \$300-\$500 weekly earnings figures for video—tantalizing numbers registered by only a small percentage of games in a very small percentage of locations.

These companies violate the standard methods of doing business in this industry, but some are trying at least to clean up their image in anticipation of a battle for a real share of industry profits.

Potomac Games of Dallas, after being ousted from doing business in California earlier this year for overstating earnings potentials to certain customers, has hired a public relations director. And company president David Cook has issued a directive to the games division of Potomac of Texas to comply with regulations in each state they do business in, including disclosures of court decisions against the company. They have also lowered prices on their own manufactured games from \$3490 to \$2990 each.

While companies such as Potomac might pose a threat to the current industry structure, other "scam" companies are dealing a more serious blow to the entire

industry's international reputation.

Sadder but wiser

"They are inferior products, and I paid a higher price for them than I would have paid for good games," complains a Florida operator about two *Star Series* games he bought from Leisure Time Electronics of Indianapolis, Indiana.

*'They are inferior products...'
'I'm out \$25,000 for dead machines...'
'They lied about delivery dates...'*

"I'm out \$25,000 for dead machines," Carol Herman of Lansing, Michigan wrote to *Play Meter* about her family's entrance into coin game operation with six *Star Series* games.

"They lied about delivery dates. They lied about profit potential. And they're impossible to get a hold of," say Jerry and Becky Keisler of Gastonia, North Carolina.

The list of angry Leisure Time customers grows quickly. Add the names of Ralph Kerns of Plymouth, Indiana, Reverend Bob George of Fogelsville, Pennsylvania, and Randy Zammatta of Chicago (*Play Meter*, September 1, 1981), and you have the results of just a few days of investigation by *Play Meter*.

And *Play Meter* is not alone in taking a look at Leisure Time's questionable activities. NBC-TV, at industry prompting, is compiling information about Leisure Time's promises of profits for an expose segment. The California attorney general's office filed civil action

By Mike Shaw

against Leisure Time in April of this year to stop them from doing business in the state, alleging the company had misrepresented revenues that its buyers could expect. Afterward, the Federal Trade Commission issued a civil investigative demand for information from Leisure Time, and, when all the asked for information was not provided, sought a court order to obtain the remainder.

In addition to the *Star Series* games, Leisure Time offers a *Challenger Series*, and the old cocktail pin *Entertainer*. The *Entertainer* was marketed a few years back by Allied Leisure, which after a sequence of bouts with various forms of bankruptcy was sold to Centuri, Inc. of Hialeah, Florida. Centuri is the manufacturer of the *Star Series* games—*Moon Lander*, *Space Ranger*, and *Astro Laser*.

Ivan Rothstein, a principal of the old Allied Leisure and the new Centuri, is cited in the Leisure Time sales pitch as a reference for the company. And, indeed, Rothstein gives the company a solid recommendation.

"They are a reputable company. There's no problem at all," Rothstein told a prospective investor, after confirming that Centuri was indeed the manufacturer of the *Star Series*. "We've been doing business with them for eight years."

When asked if each game could be expected to gross between \$80 and \$100 per week (Leisure Time's office secretary told a *Play Meter* staffer that games were grossing \$80 and \$200 per week), Rothstein answered: "Oh, that should be no problem."

But angry Leisure Time customers are having problems.

Perhaps Carol Herman and her husband Charles are having the most problems. They invested \$25,000 in the Leisure Time "business opportunity" they read about in an ad in the *Lansing State*

Journal. The ad gave a phone number and a contact, a Mr. Crawford. Mr. Crawford was not in, but they were assured their call would be returned, and it was, by a salesman identifying himself as Tom Vanio.

Vanio sold the Hermans six *Star Series* video games. He also sold them on a company known as Coast to Coast Locators, Inc. which would locate the games for \$175 each (in advance); told them they would be the exclusive *Star Series* operators in their area; and promised the games would be delivered in one to two weeks.

Because the Hermans had purchased as many as six games, they were entitled to a free day at the Leisure Time service training school. In one day they were to learn how to adequately maintain their video games. While the school did not provide a great deal of electronic know-how, it was a handy place for Leisure Time to collect the balance of what the Hermans owed on their as yet unseen investment. But also, the Hermans that day became friends with two other new "investors" in the video game business, two friends with whom they would share much disappoint-

ment over the coming months.

When the Hermans returned to Lansing to set up shop, they became initially dismayed over the delay in delivery of the machines. They had surrendered their borrowed money, and with each day of delay they were paying interest on a nonproducing investment. It was eight weeks before the machines arrived.

Then began the battle to get the games placed. "We could not reach Coast to Coast for two weeks," says Mrs. Herman, "then the locator arrived a week after he promised to be there." They had to pay for his hotel room when he didn't show, and they had to pay again for him and his girl friend when he did.

"Charles and our oldest son put the machines on our truck and they went to the University campus here in Lansing. There he placed five of the machines in fraternity houses and left. It had cost us more than a thousand dollars for one hour of work," she said.

Quality lacking

The Hermans' disappointments were not to end with the placement of the machines. They gradually became aware that the quality of the games they had bought was very

poor.

"The cabinets are made out of pressboard. They are sloppily assembled. The doors won't even close."

The friends they had made at the service school were experiencing the same difficulties. "Two of our six games are currently down," says Jerry Keisler, "and the most we have ever taken out of a machine in one week was \$20—that from one that sits in a very busy pizza parlor in Spartanburg (North Carolina)."

Another operator who bought two *Star Series* games, then expanded his business by purchasing better games, called the *Star Series* games "inferior in their earning capacity. I paid \$3490 for a game with video quality that is more like a home unit than a commercial unit. The monitor is black and white with a color overlay, and I can buy a good color game for \$2500. Also there are programming defects: press the fire button in a certain sequence on the *Moon Lander* and you'll get a free game."

The Hermans also discovered that rattling the joy stick on their *Moon Lander* results in free games. Unfortunately, the fraternity members discovered the malfunction

TOKENS • TOKENS • TOKENS

(STOCK AND CUSTOM)

FOR ALL MAKES OF GAMES,
TURNSTILES & VENDING MACHINES

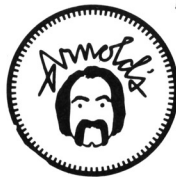
PRIZE REDEMPTION & TRADE CHECKS

CASINO SLOT & GAMING COINS

Phone or write for catalog & samples

VAN BROOK OF LEXINGTON, INC.
P.O. BOX 5044, LEXINGTON, KY. 40555

606/231-7100



Copyright © All Rights Reserved

long before the Hermans.

One of the Leisure Time sales pitches centers around the games' convertibility. The Hermans were told that Leisure Time was developing a series of new game boards that could be changed out in their original purchases. The new games were to be coming at the rate of one per month, but no new entries have been made available for *Star Series* owners.

When *Play Meter* attempted to interview Leisure Time President Joseph Cassioppi, he would not talk with our reporter. He only passed along a "no comment" through his secretary.

Questions unanswered

That the games are of poor quality is problem enough, but to what extent is Centuri producing pirated reflection of better games?

"*Space Ranger* is a cheap copy of *Space Invaders*," often one operator who was duped into buying two *Star Series* games. "And when *Moon Lander* malfunctioned, I was sent replacement boards that had Taito's name on them. They were boards for Taito's *Lunar Rescue*, the game which *Moon Lander* is a copy of."

Is Leisure Time and its associates

doing anything illegal, or are they simply capitalizing on a greedy, ignorant public? It is a question of consumer protection and one that has received much attention in U.S. courts in recent years—so much so that many federal and state laws have been formulated and cemented by court decisions, laws that protect the consumer's right to get a fair deal on every "investment" or "business opportunity."

Leisure Time and companies like it do not bother dealing with operators in the accepted trade pattern. They prey upon newcomers who only know that video games and cocktail pins and food vending machines comprise part of a profitable industry where revenues flow on a cash basis and office buildings and employees are not necessary.

In the midst of the kind of economic crises that beset Americans struggling with difficult tax and energy expenses, it is no wonder these "scam" companies can paint appealing horizons for their wide-eyes prospects while clouding their overblown prices and unproductive equipment.

Leisure Time is in trouble because its travelling shows dupe unwary customers with unrealistic profit

promises; they strap them with poor quality games, which arrive long after promised delivery dates; and they charge excessive prices for this inferior equipment.

Perhaps some law enforcement agency—or simply growth in public awareness through various media exposures—will put a halt to Leisure Time Electronics' practices. But, again there is a bruise on an industry much maligned throughout its existence.

More importantly, Leisure Time leaves in its wake a series of personal tragedies—one operator who knows of Leisure Time's efforts estimates the Indiana company to have sold more than \$8 million of machines in 1980 along, its first year of incorporation—games like those that ruined the financial stability of the Hermans.

"We're not a wealthy family," says Mrs Herman. "Charles works fifty hours a week in the grocery store. We did not have the cash to invest. So we mortgaged our house to raise the \$25,000. We didn't do it without thinking. We went to our lawyer and banker about it. I feel sorriest for my oldest son. He was so sure it was the right thing to do. Now he's sick about it all."



WAREHOUSE SALE
RECONDITIONED
30 DAY GUARANTEE ON
LOGIC, T.V., & POWER SUPPLY

- ★ ASTEROIDS \$1300
- ★ DEFENDER \$2095
- ★ STARCASTLE \$ 895
- ★ ASTRO FIGHTER ... \$ 795
- ★ BATTLE ZONE \$ 895
- ★ MISSILE COMMAND \$1245
- ★ SPACE INVADER ... \$ 495
- ★ GALAXIAN \$1200
- ★ BERZERK \$1350

Pins as low as \$200

GAMES UNLIMITED

9059 Venice Blvd., Los Angeles, CA 90034
213/836-8920



50th
Anniversary

Thank you to all our customers and friends who attended our golden anniversary celebration December 6.

It's because of you the first 50 years was possible. It's for you we now look ahead to the next half century.

540 2nd Ave. North, Birmingham, Alabama 35204

(205) 324-7526

Operators assess the new products

San Francisco hospitality for Advance Automatic's visitors

By Mary Claire Blakeman

Reflecting the banner year enjoyed by the industry overall, Advance Automatic Sales Co. attracted a bigger crowd to one of the better-known addresses in San Francisco for its annual dinner and game preview for operators. More than 650 people attended the show held in the Grand Ballroom of the Hyatt Regency Hotel on November 30.

In keeping with the upbeat atmosphere, Advance Automatic president Chat McMurtie called people in the industry the "luckiest in the world," especially compared to those in the auto industry and other sectors of the economy. "I don't think there's anyone here who hasn't enjoyed a tremendously prosperous 1981," he said.

Some attendees proved to be luckier than others as they won special door prizes of upright or cocktail table games donated by most of the major manufacturers represented at the show. The spirit of prosperity spilled over so much

that Atari officials made an impromptu decision to give away a new *Tempest* machine besides the three home video games they had already contributed. And Stern/Seeburg, which gave away two games, threw in an extra one to be donated to McMurtie's favorite charity.

After acknowledging the manufacturers at the show, McMurtie got his biggest round of applause when he asked the game builders to "Keep that good product coming...and every chance you get, reduce the price a little."

McMurtie noted the increased publicity of recent months as one of the positive developments this year. But he added, "Sometimes the best things in life are also the worst things in life." With that, he pointed out some of the well-known trouble spots the industry now faces—restrictive local ordinances, increased local license fees and copyright violations.

Parents may have their own reasons for wanting to restrict

minors from playing coin-op games, but McMurtie suggested that finances may motivate local regulations on the industry. "State legislatures and city councils may pass legislation on games to increase fees or take similar measures," McMurtie said. "Local governments need tax money, so they will be taking a look at our industry."

He suggested more participation in industry associations to meet the legislative challenges because these moves "affect the industry at all levels, it doesn't rest at any one level."

McMurtie also cautioned the operators about using game copies from "fly-by-night" companies. "Many of these people are in it for one shot," he said. "Some of you may feel you can get these games cheaper or faster, but if you look at what's happened in Europe and Japan you'll see they've ruined the business there. If any company or person spends the time, money and effort to develop a product, they are entitled to the fruits of that effort."



Chat McMurtie calls the industry 'lucky.'



Advance's Will Laurie, Sega/Gremlin's Duane Blough with door prize winner.

McMurtie concluded his remarks by returning to the theme of the evening—appreciation of operators. “I’m a firm believer that we’re only as strong as our customers,” he said, “Our obligation is to keep you healthy.”

Besides gifts and prizes from Advance Automatic, other companies offering prizes included: Ardac Inc., Atari, Automatic Products, Bally, Cinematronics, Centuri, Exidy, Gremlin/Sega, Mars Money Systems, Midway, Solano Vending, Stern/Seeburg, and Williams.

In the game display area of the show, some of the biggest crowds gathered around *Tempest*, *Centipede*, *Frogger*, *Donkey Kong*, and *Stargate*, while among the pinballs, *Black Hole* drew many players. Other operators thought *Eliminator* might be good, but as Ginnie Bosso who works with her husband Chuck in the Monterey, California area said, “It is probably for the doctors and lawyers on their lunch hour. If games are too difficult, they don’t go over that well.”

Among the games which operators said looked promising were *Thief*, *Mousetrap*, *Challenger*, *Galaga*, and *Omega Race*.

While operators at the show agreed that the industry is on the upswing, several felt it may be resting on its laurels by offering games which are often re-workings of established ideas such as the maze of *Pac-Man* or the shooting configuration of *Space Invaders*. “Red” Garlough, who has arcades in Stockton and also works the state fair circuit, said, “There are some good games, but many of them are copies, they are takeoffs on what we already have. But *Stargate* may be an improvement on *Defender*. *Tempest* is a beautiful game, but they play it and quit quickly.”

Garlough suggested that manufacturers offer features such as those on Williams’ *Defender* in which the operator could adjust the game to make it harder or easier. “We’d like to see companies do more things like that, and also if they’d get more into the third dimension graphics—that would be good.”

While the operators at the Advance Automatic show played and pondered the new games, more than a few of them said they might consult the real experts in the field to help with their decisions. As one woman said, “We should have brought our 11-year-old. He could go through here and tell exactly which games will be hot.”



Bay Area operators party and play the product: ‘We’re only as strong as our customers,’ said the distributor.



Star products were on view at one of San Francisco’s better-known addresses; but some attendees were critical of ‘difficult’ new games.



Operators said they are looking for games that are not ‘re-workings of established ideas.’
[Play Meter photos by Tom Medanich]

AOE '82/Chicago slates 35 seminars and workshops

A General Session with manufacturers' reps will kick off Amusement Operators Expo in Chicago on March 25, 1982, at the Hyatt Regency Hotel. The coin-op trade show, which will run for three days, March 26, 27, and 28, is expected to be the largest in its three year history.

The General Session, entitled, "The Manufacturers Face the Firing Line," will feature panelists Larry Bucke, Midway Manufacturing Corp.; David Stroud, Cinematronics Inc.; Ben Rochetti, Stern/Seeburg Electronics, Inc.; and Joseph Dillon, Williams Electronics, Inc.

Amusement Operators Expo will also feature over 35 seminars and workshops featuring leading industry figures as faculty members. Among the sessions being offered

are ones on The Digital Multimeter, Record Keeping, Starting and Managing the Arcade, Signature Analysis, New Equipment Purchasing, Arcade Design and Construction, Location Cost Analysis, How to Read Schematics, and Shopping Center and Arcade Leasing.

Faculty members will include Alan Bruck, Randy Fromm, Stephen B. Goot, Steve Isaacson, Stan Jarocki, and Virgil Vance. Other speakers will include Phyllis Borer, Marshall Caras, Jerry Marcus, Richard Priesmeyer, Charles C. Ross, Lou Rudolph, and Frank Seninsky.

AOE organizers expect record crowds with this third-year show. The number of exhibitors and attendees expressing interest in the show has tripled from last year, and

the move from New Orleans to Chicago is expected to tap a vast market of coin-operated amusement industry operators, manufacturers, and distributors, according to Conference Management Corp., organizers.

Sponsored by *Play Meter* Magazine, and managed by Conference Management, Amusement Operators Expo will feature an exhibit hall with a display of the newest coin-operated games and support/supply equipment from major manufacturers.

For more information about the Amusement Operators Expo, write or call Daryl Komar, show coordinator, Conference Management Corp., P.O. Box 4990, 17 Washington Street, Norwalk, Connecticut 06854, 203/852-0500.

LEARN then EARN!

If you're going to learn repair of amusement machines, you might as well do it right. At Nevada Gaming Schools we'll teach you all phases of amusement machine repair. From "How to Read Schematics," to "How to Repair Actual Component Parts, Right on the Circuit Board." This valuable knowledge will help you keep up with this dynamic growth industry! Over 94% of our graduates are placed in jobs all over the World!

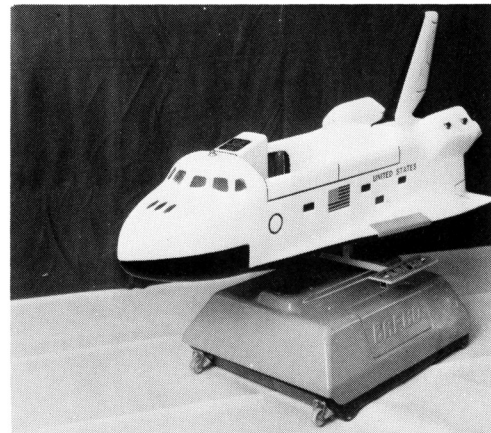
Call or write today for more information!
Don't put it off!

NEVADA GAMING SCHOOLS, INC.

3100 SIRIUS RD./SUITE PM/LAS VEGAS, NV 89102
(702) 873-2345

Our 10th Year

BAFCO KIDDIE RIDES



Bafco Limited, one of Europe's leading Kiddie Ride Manufacturers are pleased to announce that Thomas Leon's Kiddie Rides-America have been appointed as Sole Importer of our rides for the United States of America. All enquiries for equipment, spares and information should be directed to:

Thomas Leon's
KIDDIE RIDES-AMERICA
524 2nd St., Rock Island, IL 61201
Telephone: (309) 788-0135

**BAFCO FOR QUALITY, RELIABILITY AND KIDDIE
RIDES WITH HIGH EARNING POTENTIAL.**

Bafco Limited, Unit 2A Clover Trading Complex
Willoughby, Alford; Lincolnshire; England.

EXPANDS THE WORLD OF PLAY

UNIVERSAL

UNIVERSAL'S COPYRIGHT INFRINGEMENT POLICY

Universal Co., Ltd. and Universal U.S.A., Inc. are the creators of innovative and exciting video games. These games exist as a result of the sincere dedication of both time and effort by all members of our research and development department, plus the expenditure of extensive sums of money to bring these games to the marketplace.

As a result of Universal's commitment to excellence in engineering and design, two new products—LADY BUG™ and SNAP JACK™—were premiered at this year's A.M.O.A. show in Chicago. The enthusiastic response from operators and distributors around the nation was overwhelming. To meet the demand created for these new games, Universal is now gearing up its production level to an all-time high. At the same time, we are well aware of the temptation of other parties to manufacture and sell games which imitate the LADY BUG™ and SNAP JACK™ games.

Therefore, let this notice be fair warning to all potential copiers of LADY BUG™, SNAP JACK™ and all video games to be introduced in the future that Universal intends to take whatever legal action is necessary to protect its proprietary rights in these games, including the registering of the audio-visual works embodied in these games with the United States Copyright Office. Consequently, anyone who violates Universal's exclusive copyrights will be subject to criminal prosecution.

UNIVERSAL U.S.A., INC.



Cinematronics' crew with their entry, for 'the singular game of the year, Solar Quest, at Robinson's showing.

At C.A. Robinson's gathering:

Nearly 1,000 people squeezed into the showroom of C.A. Robinson and Company in Los Angeles, December 4 for what has come to be considered the AMOA Show of the West.

Actually, the C. A. Robinson affair has no affiliation whatsoever with the AMOA Show—in fact, the distributorship refers to its show as the "Western Amusement Games Exhibit" (WAGE)—but the event, nevertheless, has become the annual preview of the fall line of amusement equipment for many western operators who opt for a short trip to Los Angeles rather than a long trip to Chicago to see the games.

Factory presidents from most of the lines C. A. Robinson and Company represents are also usually on hand with a strong contingent of their sales representatives to help with the marketing of the games.

The Bettelman family (Al, Leah, Ira, and Sandy) have guided the fortunes of their 45-year-old distributing firm to its present position as one of the premier distributorships in the country. The walls and offices of their facility at 2891 West Pico Blvd. are cluttered with awards for being the top seller nationwide on countless individual models.

This year, however, the Bettelmanns received a somewhat different award. For being the top seller of *Pac-Man*, David Marofske (president) and Stan Jarocki (vice president/marketing) of Midway Manufacturing, presented Al Bettelman with a gold *Pac-Man* of his own.

Notably, the game itself will soon turn "platinum"—with Midway expecting to top the 100,000 mark



Data East's new Pro Golf video attracted duffer-operators at Los Angeles.



Fresh from Universal's factory, Lady Bug, on show with (right to left), Universal's Mark McClesky, Paul Jacobs, and friend.

A tight fit at 'AMOA Show of the West'

very soon in *Pac-Mans* sold. After fourteen months in production, sales on the piece are still going strong.

When asked for his observations about the usual big turnout for the one-day game show, Ira Bettelman turned philosophical. "The most dramatic and most frequently discussed statistic is the percentage of people in attendance who weren't in the business twelve months ago," he said.

"When you read such statistics in *Play Meter*, that one out of every three operators has gotten into the business since *Asteroids*, and one out of every five since *Pac-Man*,* though we read this and deal with these people on a daily basis—it doesn't really hit home until you put everyone under one roof.

"It is healthy," he continued, "because many of these new people come in with new ideas that are good for our business.

"I see new people working for old operating firms, and I see new people and operating veterans working for themselves. And, in both cases, I'm excited," he said.

And what was his observation of the attitudes of those attending the show? "Everyone wants to be shown, unequivocally, the top game of 1982. They don't want to take a chance. They want us to hand them the singular game for 1982. And I can't do it," he said.

Among those factories vying for that recognition as having that singular game were Midway, Exidy, Cinematronics, Atari, Gremlin, Universal, Data East, Taito, Centuri, Stern, and Bally.

*See *Play Meter*, November 15, 1981, page 21.



Hospitality and game-viewing at the Western Amusement Game Exhibit, preview of the new fall lines.



Tom Nieman of Bally Pinball Division talks up his new product with C. A. Robinson's attendees.



'W.A.G.E.' visitors get a look at four-player *Eliminator* table from Gremlin/Sega.

coin of vantage

Introducing a new technical review feature geared for the operator who does not repair his own logic boards on location.

by Paul Thiele

Troubleshooting Williams games

Williams Electronics for the last couple years has been producing some of the most popular pingames of all time, and its *Defender* video is a bold rebound into the marketplace after futile attempts during the *Pong* era.

Gorgar, the industry's first talking pinball, marked the beginning of the firm's post-electromechanical renaissance and return to commercial success, although such games as *Flash* and *Lazerball* were indicators of the turnabout.

After *Gorgar*, Williams released

games such as *Firepower* and *Black-out*, and one wondered if the firm was fallible at all.

Then came *Black Knight*, the first game with a multilevel playfield, multiball play, and speech. Almost every pinball operator bought this game, and it became a classic in its own time.

But what about serviceability? The knottiest problem facing operators who want pingames on their routes is whether service on these games takes a bigger bite out of earnings than repairs on video games, since

videos almost always outearn pins.

Have you ever opened up a *Black Knight*? When pinball reviewer Roger Sharpe writes about Williams games being overloaded with features that confuse the players, just think what the undersides of these playfields offer the repairman who is accustomed to other manufacturers' games.

The preponderance of wires isn't so bad, but how about all the switches mounted on units that are mounted to other units? Some of these switches are nearly impossible to reach and adjust without disassembling something.

The *Black Knights* I have worked on came brand new from the distributor with similar problems: disagreement between the logic board and the blade switches in the lock trough on the upper left side of the playfield, intermittent tilts for no apparent reason, and the game ending while balls were still in play. All this despite every switch on the playfield appearing to be clean and correctly adjusted.

Between these nagging play-action problems and the fact that the general illumination lamps burn out too fast (and are often ignored by operators), I saw the game as a "*Black Nightmare*."

The general illumination problem is one that has been written about previously. It happens on all Williams' recent games. I have read technical tips to operators that suggest adding a capacitor to the power supply board— but why? That's the factory's responsibility, isn't it?

Pluses

In defense of Williams, it must be recognized that weaknesses on the playfield are usually corrected in following models. Lock troughs on current models are the more reliable



I liked it a lot better when all it did was tilt.

microswitches. Conventional mini-posts located at high-impact areas of the playfield are later replaced by sturdier machine-screw posts that accommodate oversized rubber bumpers.

So the company does seem to listen; it just takes awhile for the word to get there. These seemingly minor problems harken back to 1972 and the introduction of direct current in pingames. Once again, Williams was the leader, and the firm introduced some games that were faster and flashier than any before.

However, it took awhile before the company recognized that the extra speed of the ball bouncing off the new DC-powered solenoids would eventually tear out the wood screws that fastened the posts to the playfield. Thus the machine screw was incorporated at high-impact points on the playfields of future games.

As businessmen in a highly competitive industry, Williams' staff might be justified in rushing its new games onto the market before other firms can adapt the new play features. But wouldn't a good game still be good if its release was delayed temporarily for the sake of technical improvement?

If *Black Knight*, the first multilevel

game, had been released after Stern's *Lightning* and Bally's *Flash Gordon*, wouldn't it have been the best-seller of the three anyway?

coign (coin) of vantage:
"a position advantageous for
action or observation"

(—Webster's Third
International Dictionary)

Get the bugs out

A company with as much creativity as Williams has, should take its time and get the technical bugs out before the games are shipped— combining that creativity with the confidence that it is the best-manufactured game on the market.

And as long as I'm on Williams' case, allow me to vent my spleen about the firm's popular video game, *Defender*.

Apparently, realizing the huge success of the game after the first production run, the company saw an opportunity to cut some manufac-

turing costs in future runs and replaced the traditionally well-built Williams front door with the traditionally cheaper Coinco model. And in keeping with industry form, the price of the game increased in the bargain.

With all the good, moneymaking video games on the market, a smart-shopping operator should not let this stunt by Williams go unnoticed. He might want to consider future Williams videos that will use the Coinco door, but in an over/under version that separates the front door from the coin compartment. A compromise at best.

Tell the kids to get their pennies ready!

Ed note: Thiele, formerly a journalist by profession, has been in the amusement game business for the past four years. He explains, "I started as an electro-mechanical pinball repairman in Van Nuys, California and a year later began my own route and provided service for other operators in Southern California, learning the technology of the new equipment as it came along. I currently operate about 40 video and pinball games in the Los Angeles area." With this issue, Paul joins our stable of technical consultants and writers, and we welcome him to Play Meter.



TOKENS • TOKENS • TOKENS

(STOCK AND CUSTOM)



FOR ALL MAKES OF GAMES,
TURNSTILES & VENDING MACHINES



PRIZE REDEMPTION & TRADE CHECKS



CASINO SLOT & GAMING COINS



Phone or write for catalog & samples

VAN BROOK OF LEXINGTON, INC.
P.O. BOX 5044, LEXINGTON, KY. 40555

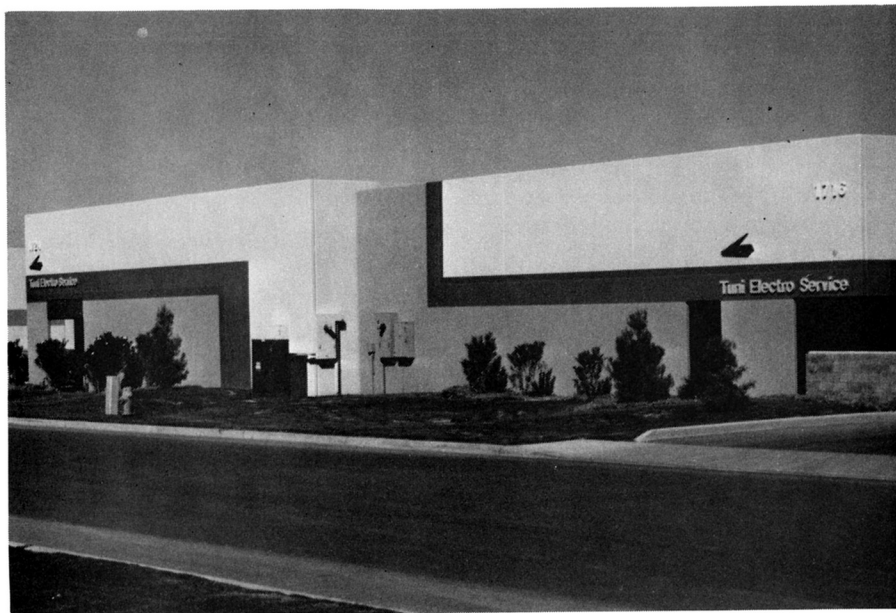
606/231-7100



Copyright © All Rights Reserved

Building convertible video system

TES Inc. pacts with U.K.'s Century Electronics



TES, Inc.'s Tempe, Arizona plant—geared to produce 100 interchangeable video games a day, as will a TES Vancouver facility.



President James Thuney (middle) signs the purchase order for 10,000 game modules from Century Games with its principals David Jones, left, and Peter Robinson, right.

Tuni Electro Service, Inc., of Tempe, Arizona has reached an agreement with Century Electronics of Oldham, England for the rights to manufacture and market the Century Convertible Video System (CVS) in the United States.

The idea of interchangeable computer games for arcade use, similar to the concept behind those popular home television games, bids to become the "new wave" in the industry, in the manufacturers' opinions.

Century, which claims a "number one" position as video games manufacturer in the United Kingdom, is among the first to market convertible systems, which enable operators to get considerably more mileage out of their cabinets and monitors (*Play Meter*, September 15, page 25). Video games, especially in saturated markets, have typically short site lives, as interest in a particular game peaks and drops off relatively sharply. The CVS system, explained TES' President James Thuney, was developed to help justify initial operator costs and minimize operator profits.

The CVS system reportedly has taken two years to perfect by Century's staff of three full-time teams of engineers and programmers. The system includes the universal printed circuit board and universal sound PCB, which has a wide range of speech capabilities. The game programming comes in a 5½" x 8" module that plugs into the main PCB.

Presently, Century has four games available, with another under development, and plans to offer two additional games by spring 1982. All seven modules will be completely interchangeable.

To change CVS games, only the marquee and game module are exchanged—a process simpler and less costly than competitors' systems, according to Thuney. Thuney said TES is planning to spend \$800,000 to lunch the CVS system during its first year, and feels "the game modules, combined with outstanding TES cabinet design, make the system's potential in the U.S. market virtually unlimited."

Operators would be able to save as much as two-thirds of the cost of two conventional games by purchasing just one game and a convertible module, said Alden Rosbrook, president of Greenbrier Marketing International, Inc., the sales arm of Tuni's Tempe, Arizona facility. Individual modules will cost about \$350 each, or \$250 with a trade-in, he added.

TES will manufacture the basic game units—the cabinets and board circuitry—while the modules, which program the games, will be exported from Century in England. Century has received a purchase order from TES for 10,000 modules to accommodate the first half of the year, said Thuney. Initial shipment was made so that DVS *Dark Warrior*, *Cosmos*, *Space Fortress*, and *Radar Zone* games would be available to U.S. operators before January 1. Rosbrook estimates that at least 10,000 additional modules will be required for the second half of 1982.

Rosbrook said he believes the CVS system has an immediate market and will continue to grow in popularity by the time the U.S. market is saturated with video games. He estimates that saturation will take place within the next two years, at which time TES will begin Phase II of the marketing program which Rosbrook characterized as one of "getting into high gear."

Peter Robinson and David Jones, co-managing directors of Century Electronics, said they spent a great deal of time selecting the best possible manufacturing company for their product. They felt a young, aggressive company like TES was their best avenue to reach the widest range of the market, said the co-directors.

Though not one of the industry's senior firms, TES is established with its Arizona plant and another in Vancouver, Washington. The Arizona facility, with over 12,000 square feet, is capable of producing 100 video games per day. The facility

includes a complete engineering and technical services department and the capacity for printed board assembly and wave soldering. Production of the main CVS printed circuit boards will be handled at both facilities, where, according to company spokesmen, the most up-to-date production equipment is utilized.

The 13,000-square-foot Vancouver facility is also capable of producing 100 complete games per day. Its sales department will service the Northwestern United States and a portion of Canada, and is headed by Patrick Reed. Sales and

marketing for the remainder of the U.S. and Canada is handled from Arizona.

Tuni Electro key personnel include Gary Englehardt, production manager in Vancouver, who was formerly with Western Electric; and in Tempe, Mike Capen, general manager, formerly of Goodyear Aerospace, and Bob Holland, manufacturing manager, formerly with ITT Courier, who have a combined 35 years' manufacturing and production experience in the electronics field. Megg Miller, also in Tempe, is sales manager and coordinator.

Here's What Standard Change-Makers' Super Capacity Series 8101 Combination \$5 and \$1 Changer did for...



Just wanted to let you know that the two new five and one dollar bill changers are working out so well that I have decided to add three additional changers. We have found that our business has increased dramatically since the initial introduction of these new changers.

Previously, our single five dollar bill changer did fairly well, sitting next to a dollar bill changer. However, when we installed the new single cabinet one and five dollar bill changer, the number of fives collected was an incredible six times those collected from the old five dollar changer. Therefore, I feel that this new combination, as well as the updated features which minimize the amount of time I spend on trouble calls and set up procedures warrant the purchase of the new equipment.

I wish to thank you for your outstanding service and I hope that we will continue doing business for many years to come.

Tom Guagliardo
General Manager



What could the Series 8101 Changer do for you?
Call or write:

Standard
Change-Makers

422 E. New York St.
Indianapolis, IN 46202
Tel. (317) 639-3423

District Sales Offices in 14 cities throughout U. S. and Canada.
Factory service centers at Indianapolis, Philadelphia and Los Angeles.



Konami licensing

Konami Industry, Ltd., of Japan announced the licensing of five of its new amusement video games following recent trade shows in Tokyo and Chicago. The games were designed at the shows by "type numbers," 102, 108, 110, 112, and 114.

Konami *Type 114* is licensed to Stern Electronics, Inc. of Chicago under the copyrighted name *Turtles* for U.S., North and South American, and Caribbean manufacture and distribution. The game is licensed to Sega Enterprises Ltd. as *Turpin* for European and Japanese markets.

Type 112 from Konami was licensed as *Strategy X* to Stern for marketing in the Americas and in Europe.

Konami licensed its *Type 110*, displayed at the JAMMA and AMOA shows, to Stern for American and European markets as *Journey*, its copyrighted name in those areas, and to Sega for Japanese marketing under the name *Vega*.

Worldwide rights to *Tactician* were licensed to Sega by Konami for its *Type 108*. Sega/Gremlin introduced *Tactician* to the U.S. market at the October AMOA Show in Chicago.

Konami's *Type 102* was licensed to Stern Electronics, for later introduction to the markets of America, the Caribbean, and Europe under the copyrighted name *Jungler*.

An announcement from Konami stated that, as originator of these several games, it "will take action against anybody who violates" its trade rights in the respective areas and will prohibit the sale of copies of its video games—anywhere except in the above areas without our license."

Among other games Konami has created, it has licensed *Scramble*, *The Hustler*, *Frogger*, and *Super Cobra* to various marketers for special areas.

To World Trade board

Marita Keddeinis, a staff member at Gremlin Industries, Inc., San Diego, has been appointed to the board of directors of the World Trade Association.

Keddeinis is assistant to H. Frank Fogleman, vice chairman of Gremlin. Gremlin is the commercial computer video game design and manufacturing subsidiary of Sega Enterprises, Inc.

Sega sues *Frogger* 'copy' in Britain

Sega Enterprises, Inc., which has been successful in legal actions against video game copiers in Japan and England, is planning similar action against game copiers in the United States, according to David Rosen, chairman of the company.

While Sega's current activities involve its popular *Fogger* video game, its position towards game copying applies to any and all games the company designs, manufactures and sells to its distributors, said an announcement.

"We must protect our legitimate rights and we will take stringent steps to do so wherever and whenever necessary," Rosen stated. "We hope that our determination in taking appropriate action on *Frogger* and our other games will strengthen the position of our distributors and assist other reputable manufacturers in our industry."

Among the companies in England against which Sega has taken action

are London Conversion Company, Computer Video Services, and Blackburn-based Omni Micro Technology Limited, a member of A.F.M. Leisure Group. At the core of these proceedings were allegations that Omni's *Leapfrog* gamepack is a substantial copy of the *Frogger* game.

Orders were obtained recently in the English High Court enabling Sega to seize allegedly infringing goods and documents relating to the *Leapfrog* gamepack from the premises of the companies involved. Furthermore, notifications were given to the Court by each company stating they would not commit further acts of infringement.

"We are particularly pleased with the quick and effective action which has been taken in England to prevent game copying activities," Rosen commented. "We will continue to take an aggressive position to deter these types of illegal activities from occurring in the future." •

Atari hits Australian with infringement suit

A major step in the fight to protect U.S. manufacturers' video games from copyright infringements and piracy was taken recently, when a federal court in Chicago issued a preliminary injunction favoring the claim of Atari, Inc., that an Australian firm infringed the company's copyright for *Centipede*.

The injunction, issued in the Federal District Court for the Northern District of Illinois on Monday, November 2, 1981, bars Armenia, Ltd., Sydney, and its president, Gordon Steinberg, from displaying, performing, offering for sale, or importing into the United States, a coin-operated video game called *War of the Bugs*. In ruling for Atari, the federal court found that the company owns a valid copyright in *Centipede* which Armenia and Steinberg infringed by their creation of *War of the Bugs*.

"Two important events occurred in this decision," Charles S. Paul,

Atari's general counsel, said. "The most important is the fact that the case was presented and decided on the audio-visual nature of the game, as if it were a movie performance, irrespective of it being a computer generated product. The second event is the speed with which the court reached its decision," Paul added. "The preliminary injunction was issued within three days of our filing the complaint."

"The law in this area is being developed rapidly. We intend to prosecute infringers of our copyrights for coin-operated video games, home computer software and home video computer system games when and wherever we find them. Our products are too valuable to overlook the real threat posed by illegal copies," Paul added. "We feel that the law should be developed to encourage innovation and to punish pirates."

TM
**MARS -INNOVATION
 OF SPACE THEME GAME**

TM
 MARS

is Designed and created by Artic
 Electronics Co., Ltd. of Taiwan.
 Republic of China.

TM
 MARS

is a revolutionary new era of
 space theme game.

TM
 MARS

features a new craze to the video
 game market.

TM
 MARS

is the winner's choice, new ex-
 citement, challenge.

TM
 MARS

guaranteed your \$ margin in-
 creased.

TM
 MARS

is a game of air to air and air to
 ground fighting.

TM
 MARS

is curise missiles always follow
 you.

TM
 MARS

is a continuously fighting game.
 It is always getting more diffi-
 cult.

TM
 MARS

is available UP RIGHT TYPE,
 COMPACT UP RIGHT, and
 TABLE TYPE (14' or 20')

HOW TO PLAY

1. LEFT LEVER IS THE 8 WAY SPACE SHIP POSITION CONTROL.
2. RIGHT LEVER IS THE 8 WAY FIRING CONTROL.
3. THE OBJECT OF THE GAME IS TO DESTROY ON-COMING ALIEN ENEMY SHIP AND MISSILES.
4. INCREASE YOUR SCORE BY SHOOTING GROUND ALIEN INSTALLATION. CERTAIN GROUND INSTALLATION RE-FUEL YOU, ESPECIALLY OIL TANK.
5. ONE BONUS SPACE SHIP IF YOU REACH 10,000.
6. BEWARE OF FLAMING SPINNING UFO, IT CAN ONLY BE DESTROYED BY SHOOTING THROUGH THE 4 WINDOWS.

TM

"MARS" IS A TRADE-MARK OF
 ARTIC ELECTRONICS CO., LTD.
 COPYRIGHT © 1981, ARTIC
 ELECTRONICS CO., LTD.
 ALL RIGHT RESERVED.,



LICENSED DISTRIBUTORS IN USA

ASSOCIATED COIN AMUSEMENT CO., INC.

2230 E. 14TH ST., OAKLAND, CA94606

TEL NO. (415) 533-3421

DANA GREGG AND CO.,

TEL NO. (404) 482-1624

EASTERN MICRO ELECTRONICS INC.

12 D WORLD'S FAIR DRIVE, SOMERSET, N. J. 08873

TEL NO. (201) 469-9690

GLAK-OMNI VIDEO INC.

(GLAK ASSOCIATES INC.)

231 ELM ST. WARWICK, R. I. 02888 TC

TEL NO. (401) 738-5065

IMPERIAL GAMES INC.

P. O. BOX 154, PROVO, UTAH 84601

TEL NO. (801) 266-7422

ARTIC

ARTIC ELECTRONICS CO., LTD.

2, LANE 69, KAN SHAN HENG STREET, CH'EN CHEN DISTRICT,
 KAOHSIUNG (800), TAIWAN, R. O. C.
 TEL: (07) 711-1686-7 • 751-5183-8 TELEX: 72278 ARTIC UP
 CABLE: "ARTIC" KAOHSIUNG 72537 ARTIC

Amusement Operators Expo 1982

March 26, 27 and 28, 1982
Hyatt Regency Hotel
Chicago, Illinois
Sponsored by: Play Meter Magazine

THE SHOW THAT ADDRESSES TODAY'S PROBLEMS WITH TODAY'S SOLUTIONS FOR TODAY'S OPERATOR

it is rapidly becoming one of the most important shows in our industry.
AMUSEMENT OPERATORS EXPO '82 will double in attendance over the 1981 show,
Now in its third year, AOE is making news for 1982:

EXPANDED SEMINAR/WORKSHOP PROGRAM

Subjects will range from the highly technical to the business and promotional aspects. Courses will include:

- Arcade Design and Construction
- Location Cost Analysis
- Business Forms and Recordkeeping
- Starting and Managing the Arcade
- Return on Investment and Business Profitability

DISTRIBUTORS' PREVIEWS

Each day, a special exhibit preview will be available to distributors. This will be a key opportunity for suppliers, manufacturers, and distributors to make those IMPORTANT face-to-face contacts in a relaxed atmosphere.

WE'VE MOVED TO CHICAGO!

Chicago has been picked as the home for the making-news-in-'82 AMUSEMENT OPERATORS EXPO. The Hyatt Regency is the best there is, with exhibits, meeting rooms, special events, and sleeping rooms all located within this fabulous and beautiful hotel. There is much to see and do in Chicago, and after the seminars are over and the Exhibit Hall is closed, you will want to take advantage of the night life and fine entertainment offered in the hotel and throughout the whole city of Chicago.

AMUSEMENT OPERATORS EXPO is making news in 1982. Growing industry-wide enthusiasm by amusement machine owners and operators, suppliers, distributors, retailers, arcade owners, and chain store executives has resulted in close to 200 booths being reserved 6 months before the show! Take a look at this impressive list of exhibitors who have already signed up:

1982 AMUSEMENT OPERATORS EXPO EXHIBITORS

Bally Pinball Div./Midway Mfg. Company
 Data East, Inc.
 Electro Sport, Inc.
 Game-A-Tron Corporation
 Kiddie Rides-U.S.A.
 Kurz-Kasch Electronics Division
 Rowe International, Inc.
 Taito America Corporation
 Williams Electronics, Inc.
 The Wiz Kids
 Scan Coin, Inc.
 U.S. Billiards
 O.B.A., Inc.
 Universal U.S.A., Inc.

United Billiards
 Cinematronics, Inc.
 General Computer Corporation
 Stern Electronics, Inc.
 Shanco International
 Wildcat Chemical
 National Rejectors
 Came Software Systems, Inc.
 Dynamo Corporation
 Exidy, Inc.
 D. Gottlieb & Company
 Konami Industry Company, Ltd.
 Thomas Leon's Kiddie Rides America
 Standard Change-Makers, Inc.

The Valley Company
 Willis Industries
 Elcon Industries
 Green Duck Corporation
 Tournament Games, Inc.
 Wico Corporation
 Nintendo of America, Inc.
 Gremlin
 Encyclopaedia Britannica
 Americade Amusement, Inc.
 Amusement Emporium
 Bio-Rhythm Company
 Coin Controls, Inc.
 Coin Acceptors, Inc.

Send now for your FREE brochure outlining the program, the seminars, and the special events, and we'll send you a copy hot off the press.

Mail to:
AMUSEMENT OPERATORS EXPO '82
 17 Washington Street
 Norwalk, Connecticut 06854
 or call:
203-852-0500

Name _____

Company _____

Address _____

City _____

Telephone Number _____ Area Code () _____

State _____

Zip _____

I am interested in Exhibiting
 I am interested in Attending

STRATEGIES

for making sure you get to read
your own copy of **PLAY METER**

**Strategem No. 4 in a series:
Play the 'shell game'...**



**Take the cover off another magazine and
put it on **PLAY METER** to protect your copy
or...**

You can fill in the coupon below for easy, direct delivery of *Play Meter*
to your home, twice monthly.* Send check for only \$50⁰⁰ for 24 issues!

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Check one

Operator

Distributor

Manufacturer

Support & Supply

Other

*Please allow 4—6 weeks for receipt of first issue.

Outside U.S. and Canada: \$150⁰⁰ air mail only.

Send to: Play Meter magazine, P.O. Box 24170, New Orleans LA 70184



Taito debuts cocktail

Taito America Corp. has introduced its first American-made cocktail table line which is currently available for Qix.

The classic series table fits appropriately in the decor of virtually any lounge or restaurant setting, and will be offered in other game versions in the future, said the manufacturer.

"It is a totally flexible unit," said Jack Mittel, president of Taito America. "To ensure acceptance of the new design, we conducted extensive operator surveys so that our design would contain all of the features the operators wanted," he added.

The new table features a generous table top space and a specially designed top glass highlighted by mirroring with a coordinated mar-resistant polycarbonate control panel.

The table adjusts from a height of 24 to 41 inches to provide plenty of leg room in any position. Dual coin acceptors are standard.

The new Taito-produced table features the company's popular new service priority cabinet.

The table top measures 27 x 35 inches.

Cola vendor talks

The Coca-Cola Company has developed a vending machine that talks, it was announced.

Test machines were installed in November in Atlanta, Detroit, and Houston. The machines are programmed with phrases: "I'm the Talking Vendor machine from Coca-Cola," "You need to put in money;" "Sorry, sold out;" and "Don't forget your change."

Game-A-Tron seeks action for alleged thefts of 'secrets'

Game-A-Tron Corp. of New Britain, Connecticut has filed suit against one former employee and contemplates action against other individuals in connection with alleged "theft of trade secrets" which were property of Game-A-Tron and the use of trade information in violation of an employment agreement with Game-A-Tron.

The suit filed in U.S. District Court for Connecticut named Sarote Tabcum as violating a non-disclosure agreement signed with the games manufacturer when he was in its employ as an engineer. The suit filed November 12 asks the court to grant damages and to prevent further disclosure of proprietary information.

Dominick Sanzo, chairman of the corporation, said certain schematics and blueprints were discovered missing in July, following the departure of several employees to form a new games production company. "A (game PC) board normally takes 12 to 18 months to develop and 'de-bug,'" said Sanzo, pointing to the new games company, Status Games, with its principals the former employees of Game-A-Tron, entering the market in August with draw poker and black jack video games.

No court hearing date had been set in the trade secrets action, which was filed in a federal court due to Tabcum's being a resident of another state, New York.

Atari action on Pac-Man

A federal court order has restrained Ken Williams, doing business as On-Line Systems, from producing or selling home computer games that Atari, Inc. claims infringe its rights to the game called *Pac-Man*.

The U.S. District Court for the Eastern District of California, Fresno, issued a temporary restraining order preventing the Coarsegold, California, company from producing or marketing *Gobbler* and *Jawbreaker*, which Atari claims infringe its rights, violate provisions of trademark law

covering false designation of origin and constitute unfair competition.

Atari acquired an exclusive U.S. sublicense to manufacture and sell versions of the coin-operated game for use on both home video games and personal computers from Namco-America, Inc., in April of 1981.

The court also set December 7, 1981, as the date on which On-Line Systems attempt to show cause why a preliminary injunction should not be issued in the case.

Just a "token" of our manufacturing expertise over the past 75 years

GREEN DUCK CORP.
 Direct from the factory to you!
 255 S. Elm Street
 Hernando, Mississippi 38632
 (601) 368-9033 (800) 647-6168

LOCATION COST ANALYSIS The Real Cost of Operating

By Tony Bado

There is a formula that all operators of coin operated games are trying to live with these days; i.e., location demands are directly proportional to the rate of new game introduction. This formula has always been with the coin-op industry; however, the flux of today's market makes it very tough for the operator to endure. For most, this time honored formula has become particularly oppressive.

Recently I attended the Amusement and Music Operators of Virginia convention and show in Richmond. The quantity and variety of new equipment displayed was impressive. Yet in the light of the above formula, it was equally depressing—as the only piece displayed which I carried in my inventory was *Pac-Man!* When these new machines hit the malls and better game rooms, your locations will demand them. You as the operator will be tempted to say, (more than likely to yourself) "I've not paid for the 'old' ones yet!"

The AMOA show has brought us even more new equipment.

Many locations will insist on these new machines on the basis of what one of my location owners said recently: "I have a good spot here!" How many times have operators heard this? The financial position of the typical operator today will not permit him to "pull his punches." There is a point dictated by viable investment return which, when reached, demands that the operator say, "NO!"

In an effort to determine the validity of a location's "good earning potential," you can perform what I call a Location Cost Analysis. A cost analysis can be done with any location regardless of its earning performance. But I'll do one of these especially when a location owner makes equipment demands which I feel are financially unjustified.

Depending on what is checked beneath "Operator Action Options" (see sample form), the worst that can happen is that the truth will be told. The genuine nature of the relationship between operator and proprietor is exposed.

The real advantage is that the operator can show quantitatively why location demands for new equipment are (or are not) unjustified.

Before a cost analysis can be performed, the operator must have at least six to twelve months' experience in a location. In this way

ANTHONY AMUSEMENTS 703-670-2681		DATE _____
LOCATION COST ANALYSIS		
Location _____		
Commission Arrangement _____		# Machines _____
Average Weekly Gross \$ _____		Weekly Net \$ _____
Estimated Annual Gross \$ _____		Annual Net \$ _____
Average New Machine Cost \$ _____		
Operator Game Cost @ # _____ Machines Installed \$ _____		
Average Visitation Frequency: <u>3.5</u> per year (approx. once every 1½ weeks) _____		
Estimated Annual Location Service Expense @\$20 per visit \$ _____		
Estimated Annual Operator Break-Even Cost \$ _____		
Profit/Loss (Annual Net less Break-Even Cost) \$ _____		
NARRATIVE ANALYSIS and RECOMMENDATIONS	OPERATOR ACTION OPTIONS	
_____	1. <input type="checkbox"/> Reduce amt. of Eqpt. _____	
_____	2. <input type="checkbox"/> Gross minimum/machine _____	
_____	3. <input type="checkbox"/> Increase operator comm. split _____	
_____	4. <input type="checkbox"/> Install greater % older eqpt. _____	
_____	5. <input type="checkbox"/> Reduce eqpt. rotation frequency _____	
_____	6. <input type="checkbox"/> Analysis for your info. only _____	
_____	7. <input type="checkbox"/> Further study needed _____	
_____	8. <input type="checkbox"/> Abandon location: Date _____	
_____	9. <input type="checkbox"/> Decrease visitation frequency _____	
_____	10. <input type="checkbox"/> Other _____	
_____	EFFECTIVE DATE OF ITEMS CHECKED ABOVE _____	
_____	SIGNED: _____	

the weekly and annual gross and net can be validly determined with respect to your commission arrangement. The number of machines installed and the average cost of new games today establishes the base of your location cost evaluation.

The average visitation frequency of 35 per year is determined by a twice monthly collection schedule coupled with unexpected service problems, which seem to crop up about once every other collection.

On my route, the average service call takes approximately two hours—one-half hour travel each way and one hour of actual service. In today's economy, I judge my time to be worth at the very least ten dollars per hour. Thus, each location visit amounts to twenty dollars cost to me as operator.

The estimated annual operator break-even cost figure will tell whether you are realizing any profit in a location. In addition, the figure will show if you're standing still—or worse, subsidizing a location. If the only money you are making in a spot comes solely from your tax depreciation schedule, you certainly need to make some changes.

My break-even cost is determined by the total cost of equipment multiplied by 2 (based on a 50/50 split). My average annual service expense is then added to this product. Twenty percent of this total is computed and then added to the total itself. This grand total is my estimated annual operator break-even cost.

When compared to the annual net, all money above this total is profit—or loss if below the total.

Each location is unique. Your statements under narrative analysis and recommendations will personalize the location; and those should be based solely on the hard data of the cost analysis. Due to the unique character of each location, there is no sequential plan of action in the 10 operator action options.

Whichever action option(s) is chosen, though, it should be carried out without any delay—as you have clearly demonstrated the reasons for your actions.

Some location owners are adamant and overbearing. A famous man once said that "common sense is not so common." If you cannot reason with a proprietor based on your Location Cost Analysis, you really don't need him! It is then truly time to move out and move on.

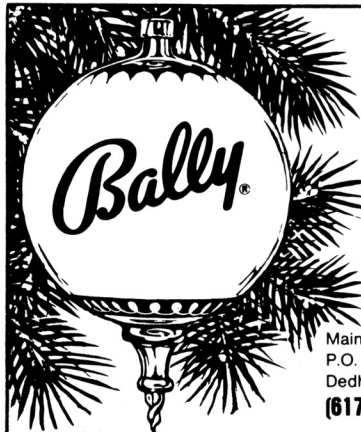
PEACH STATE DISTRIBUTING CO.

The Dependable Supplier with a complete inventory
for the Coin Machine Industry

From Billiard Supplies and Game Parts to Electronic Repair
Equipment and Solid State Replacement Parts

Now, more than ever, dependable service, and quality
merchandise, at competitive prices.

1040 Boulevard, S.E.
Atlanta, Georgia 30312
(404) 622-4401
Toll Free: 1-800-241-1346 (except in Ga.)



**BUY WHOLESALE
Panasonic TV's and
Video Recorders**
Call for prices

Bally Northeast Distributing, Inc.

Main Office/Boston: P.O. BOX 287 Dedham, MA 02026 (617)329-4880	New York Branch: P.O. BOX 23 Syracuse, NY 13211 (315)463-6251	Buffalo Area: 170 French Road Cheektowaga, NY 14227 (716)668-1991
---	---	---

**TWICE A MONTH
WITH TWICE AS MUCH
AS BEFORE**

PLAY METER
.....
MAGAZINE

PLAY METER CALENDAR

Belam Florida exec to head vending

Belam Florida, one of the Southeast's largest distributors, has announced the appointment of industry veteran Joe Gilbert to a management role with the firm. Gilbert will head the sales team at Belam Florida, branch of the New York-based R.H. Belam Company.

Gilbert has been active in the coin machine industry since childhood, and this appointment brings him back to work with Belam Florida General Manager Murray Kaye, his first employer at the former Atlantic New York Corp. in the 1960s. Gilbert has been with National Vendors for the past 11 years, and brings varied industry experience to Belam.

In announcing the appointment, Belam Florida President Marc Haim stated, "Joe adds great depth to our management staff, and brings a new perspective to our operation."

One of Gilbert's key responsibilities will be to add vending products to Belam's existing coin-op line. Recently Belam was appointed a distributor of the Automatic Products line for the state of Florida. Belam will also handle Automatic Products in the export markets of Central and South America. •

Kiddie Rides America markets Continentals

Kiddie Rides America has announced that it will exclusively market all coin-operated kiddie rides manufactured by Continental Amusement Manufacturing Company, of Milan, Illinois.

Continental manufactures two hydraulic coin-operated kiddie rides and five mini-replica television monitor "Wheels" coin-op rides. (See "New Products" section, this issue.)

Tom Leon of Kiddie Rides America said, "With the addition of Continental, we feel we have one of the deepest, most versatile lines of kiddie rides anywhere available."

Leon's firm also currently imports Bafco, R. J. Newborough, and Whittaker Brothers kiddie rides from England, as well as representing other American manufacturers.

January 15-17

Music Operators of Minnesota, annual convention and trade show, Holiday Inn, downtown Minneapolis

January 18-21

ATE, Birmingham, England, National Exhibition Centre

January 19

Music Operators of Minnesota, annual convention, Holiday Inn, Minneapolis

January 21-24

IMA, Messegelände, Frankfurt, Germany

February 16-18

Northern Show, Blackpool, England

March 3-5

Australia's AMOA Convention, Hilton Hotel, Melbourne

March 26-28

Amusement Operators Expo '82, Hyatt Regency, Chicago

March 31-April 2

Coin-Op '82, Irish Amusement Trades exhibition, Racecourse Centre, Leopardstown

April 2, 3

AMOA/Notre Dame Seminar, Center for Continuing Education, Notre Dame, Indiana

April 14-23

Milan Fair, Internat'l Business and Meeting Center, Milan, Italy

April 16-18

FAVA/music, games, and vending show, Curtis Hixon Convention Center, Tampa, Florida

April 30, May 1

Wisconsin Music Merchants Association exposition and annual membership meeting, Milwaukee

Hawley Leisure products told

Hawley Leisure Amusements Ltd. of England and Sega Enterprises Ltd. of Japan have entered into an agreement to manufacture and distribute *The Turbo* video driving game.

Bob Deith, managing director of Hawley Leisure, said: "Following the success of previous Sega driving games, *Turbo* was the major attraction of the JAA Show in Tokyo and the AMOA in Chicago." Streets Automatics will manufacture the game for the U.K. and Irish markets and substantial numbers will be available for early spring 1982 delivery, Deith indicated.

Ruffler and Deith will distribute *The Turbo* and *Sega KO Punch*, a hydraulic punch-ball combined with a television monitor.

A Streets spokesman said the firm is "well-equipped to manufacture *Turbo*, and we are substantially increasing our production space to meet our commitments in 1982, which looks to be an exceptionally busy year."

Meanwhile, Hawley Leisure has acquired sole rights from V.M.I./Los Angeles to manufacture, operate and supply video cassettes to the coin-op industry and has licensed V.I. Leisure Ltd to manufacture and operate this equipment.

Video jukebox

Bob Deith said that, under this arrangement, Streets will manufac-

ture the V.M.I. video jukebox for both Ruffler & Deith distribution, Hawley's own operation, and V.I. Leisure Ltd., the latter itself also manufacturing, and that both companies will cooperate to develop new products and to exploit new technology.

Of the phonograph, Deith said, "This is an exciting concept, entertaining all age groups with video tapes showing a mixture of 'top of the pops,' highlights of great sporting events and short clips of comedy films, etc. We believe that the video jukebox will prove to be the first generation of an extensive range to promote entertainment in pubs and other suitable locations.

Roy Clinning, chairman of V.I. Leisure Ltd., told trade reporters that "We are newcomers to the coin operated industry; our parent company, Vibroplant, has an excellent track record of profits. I have taken on the development of V.I. Leisure Ltd., and in conjunction with David Williams, feels confident that the joint venture with Hawley Leisure Amusements Ltd. will lead to many thousands of video jukeboxes being located within the next two years."

Tapes were scheduled to be available to the British operator, enabling him to change his program on site either once or twice a month to maximize profits.

Taito power supply bugs, and unauthorized 'prying'

Just recently I wrote about how well constructed the Taito cabinet was and how difficult the coin door was to break open. Well, it has happened again; this time a *Crazy Climber* coin door was pried open and although the day's receipts (about \$30) was not taken, about \$150 in damages resulted (see picture). This does not include the "downtime" which at this writing is over one week and it looks like it will at least be another week until I can get a replacement coin door. From now on, no matter how difficult it is, I'm going to take that Taito lock off and somehow put an Ace or Abloy lock on that can be bent open if attacked by a 5-foot crowbar.

Anyway, I was overjoyed to see that *Qix*, Taito's newest game, comes with the standard Coin Acceptor door and a normal locking assembly. In fact, three *Qix* games arrived the day after the *Crazy Climber* destruction, and were put out on location. After three days of "intermittant" problems, the games had to be brought back to the shop for observation.

Most of the problems centered around the power supply. The +5 volts measured about 5.5 volts (too high) on two of the games and 4.45 (too low) volts on the third game. The +12 volts measured high on all three. I was informed by Taito that on the original run of *Qix*s the +5 volt supply was improperly set to 5.5 volts. The correct setting should be 5 volts. The correct setting should be 5+/- .05 volts.

This, plus the fact that none of the four pots on the power supply were glued into a set position, was the cause of more than 90% of the problems. The pot settings move from heavy vibration during shipment of the game. So go out there and check and reset the four pots.

The remaining two pots are [+5 volts -7 amps] and [+12 volts -4

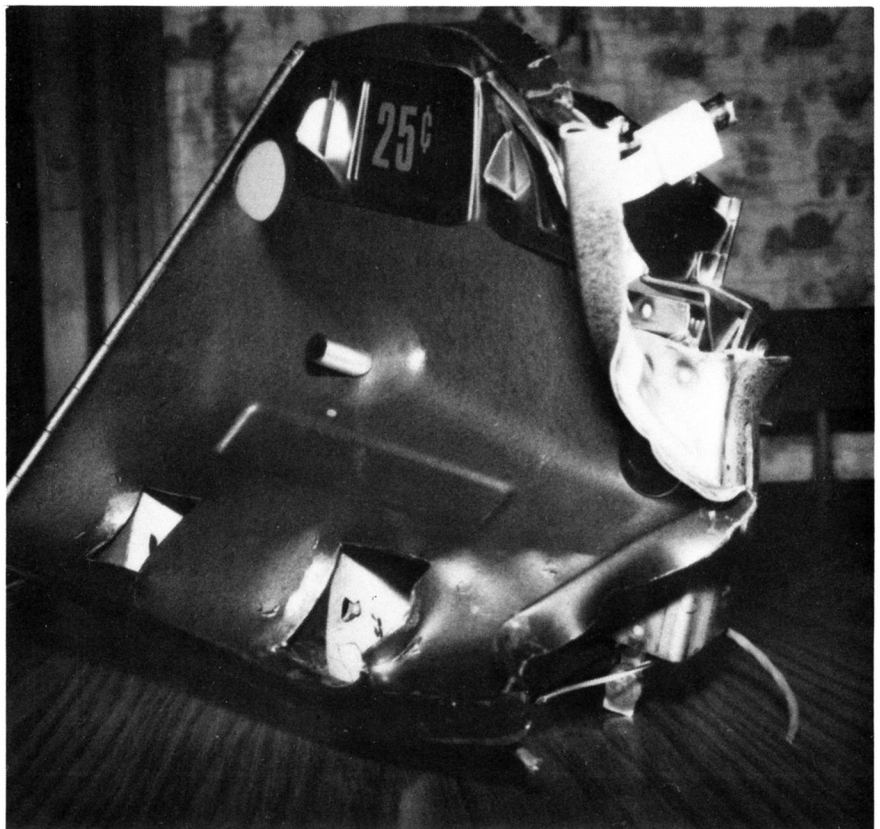
amps] current limiting or current "foldback" regulators. These are protective circuits that are sensitive to increase in current, and would be helpful in lowering the voltage if the output of the power were shorted.

Taito put out a service bulletin on *Qix* that I happened to pick up at the AMOA Show last month. This is the only way I could possibly have gotten a service bulletin because, as we all know, there is no way that any of my "distributors" would take the time to send one to me. The problem is that the game will power-up but will not coin-up. After adjusting the voltages correctly this is exactly what I encountered. The bulletin said that the reason for the game not coining-up was that the battery was too low.

Yes, this turned out to be just the case.

The batteries most commonly used by Taito are manufactured by Gould Electronics and are shipped to Taito in a "non-charged" condition. These batteries are supposed to be charged or "burned in" for twenty-four hours. Due to a PNP transistor problem on the PC board (which has now been corrected) a blue jumper wire at position W1 was not installed during "burn-in"—which resulted in each battery only being charged for one hour instead of 24 hours.

If you have a game with a low battery, a memory failure will show up on the screen and the CMOS RAM must be reset. The simplest



Crazy Climber coin door after attempted break-in: about \$150 damages.

DISCOVER A LOST DIMENSION IN YOUR VIDEO GAMES

Open up new markets for game placements in locations where silence is golden and revive interest in older equipment.
Head phones increase player interest and decrease non-player distractions.

Easily installed SOUNDENSOR kit allows choice of speaker only, head phone only, or combination. This newest fad in video games is spreading rapidly. Try it to see increased business.

Kit #582 - \$6.95

Includes phone jack, volume control and all necessary hardware and instructions.

Kit #583 - \$19.95

Includes head phones and all material listed in kit #582.

Send orders or inquires to:

VIDEOTRONICS

P.O. Box 808
Green Mountain Falls, CO 80819
Allow 2-3 weeks for delivery
Incl. 50¢ shipping/handling for 1
\$1.00 for 2 or more

AMERICAN ARCADE TECHNICAL ACADEMY

(Formerly American Arcade School)

*In depth instructions on solid state game equipment.

*Guest lecturers from major game factories. Concise 6 day course, including text books and technical manuals.

*Lecture sessions and in-shop training directed by Don Wright, Chief Customer Service Technician.

*"Limited space available—sessions will be held on the 2nd & 4th Mondays of every month through the following Saturdays."

4688 Alvarado Canyon Rd.
San Diego, Cal 92120
Call now for information
714/287-4263 in California
1-800/854-2521
Nationwide
Credit Cards Accepted

way to do this is to open the coin door. There are two switches located near the top left of the door frame. The top switch is the memory protection switch. When this switch is closed no information can be written into the CMOS RAM (when the coin door is closed).

The bottom switch is the power interlock switch. Pull out the bottom switch only and then turn the game off and then on. You can use the on/off switch for this location under the front left section of the cabinet. This will automatically write the required data into the system. Now you can fully charge your battery.

There are still at least three known reasons why the game could "lock-up" or "freeze" during play in addition to an incorrect voltage setting: (1) Line transients on the incoming AC line could cause intermittent problems. Taito has installed "transient suppressors" on the power supply. This has been done on all games to eliminate line transients.

(2) Noise on the IRQ (interrupt request) and/or NMI (non-maskable interrupt) data lines. These are signal pins on the microprocessor which have been rerouted on the PC board. Taito has a service bulletin about this which I will try to get hold of soon and will note any field changes if necessary.

(3) Three values have been changed on the Video Processor Board: R65 has been changed from 390 ohms to 150 ohms, R61 from 150 ohms to 390 ohms (these can just be swapped) and C101 has been changed from .1 microfarads to 10 microfarads. All of these changes were made before the first production runs hit the streets.

Cabinet areas

Taito has improved some of the weak areas of their cabinet design but has also created some potentially annoying deficiencies. I will cover both.

Starting with the positive aspects, I particularly liked the illuminated instruction section under the front cover glass. Two #47 lightbulbs were installed under the cover glass so the instructions could be read in the dark. Let's hope that we operators will show our appreciation for this small gesture by Taito and replace these bulbs when they burn out. I would suggest replacing these bulbs with #44 bulbs and although they will "glow less brightly," they will last much longer.

The marquee on Qix as well as the monitor cover are made of tempered glass. This should reduce the need to

replace these items weekly. I still think that Atari had the right idea when they designed the *Tempest* cabinet with a marquee made of solid metal casting.

The control panel has a polycarbonate overlay similar to that used by Exidy which has proven durable. This overlay is made by Willis Industries and I, too, feel it is far superior to the epoxy silk-screening that was used on the *Crazy Climber* control panel.

The joystick control is the four-positioned model made by Wico Corp. The blade switches have been cracking after a couple months of use and can be replaced when necessary with longer lasting blades made by Wico. The four push buttons on the control panel are controlled with four Wico blade switches. These switches have the common gold plated contacts and can be replaced with the new Wico "Cross Hair" switches that have been used by Atari on *Deluxe Asteroids* and *Centipede*.

The control panel is latched with hinges on the left and right (Midway has now gone to using an extra latch in the middle of the panel on its new game *Galaga* which I will review in the next few weeks) and is securely mounted. The cashbox is certainly large enough; it looks like it will hold over \$1000, but I don't think I could lift that much up and out of the cashbox. The cashbox cover should be bent downward making the shape of a U so the lip cannot slide past the lip of the coin door frame. This will eliminate unnecessary coin jam-ups.

The monitor is easy to adjust and the components are clearly accessible from the back of the game. To remove the monitor two bolts must first be removed from the sides of the cabinet. The frame will then pivot down to a horizontal position. After removal of four additional bolts, the monitor will slide out easily. The monitor mounting frame is sturdy and is securely mounted to the cabinet frame. Taito does a good job on their cabinets.

Qix is also equipped with the capacity to use a mechanical coin meter. One can easily be connected with one lead going to a +12 volt DC wire on the coin entry lamp and the other lead running to connector J15-13 on the ROM/IO Board. A service outlet has also been provided for those frustrating times when a drop light is required and your battery operated soldering iron has quit work early (usually at 11 a.m.).

There were three negative areas that need mentioning: (1) The

power supply bracket which contains the main fuse and a filter choke is not securely attached to the cabinet. Mine was found lying across the power supply board. The bracket just slips over an edge of the cabinet cutout and can easily be pushed back into the cabinet.

(2) The concept of having the back door of the cabinet on hinges is not viable. For operators, it is very easy to open. I took a screwdriver and bowed the side of the cabinet outward and the lock tongue slipped past the edge. It was then easy to apply about ten pounds of pressure with my pinky on the top corner and then the bottom corner to bend the flimsy locking bar rods out. The back door then just swung open.

I was insulted when I saw that the PC boards (Video Processor Based, Data/Sound Board, and ROM/IO Board) were attached to the back of the door. Just this past month I have seen more than a dozen cabinet back doors broken into little pieces when the games were broken into. It's bad enough to have to make a new back door, but can you imagine what the boards would look like in little pieces? I think it's better to reinforce the back door with anything but please don't use the

circuit boards for this purpose. Also to work on the game from the back, the cabinet must be pulled pretty far away from the wall to be able to swing the back door open. And the door also blocks off whatever light is available and makes it difficult to work on the monitor and the power supply.

(3) The removal of the cover glass to clean the monitor is just plain annoying. First you must remove the control panel. Then you must loosen three screws on the cover glass front bracket. Then you must open the service door and remove the rear cover glass bracket. Oh, did I forget to say you have to pull the game out from the wall (there is always a wall it seems) before you can get open the back door and, oh yes, you must get the key to open the back service door. And then you must slide the glass out through the back service door over your head and very carefully so you don't break it. Then you have to go back to the front to clean the monitor. If I have to go through all this why should I bother to clean the monitor in the first place?

Now to rate Qix on a scale of 1 to 10. It is better designed than was Crazy Climber. The self-test

features are excellent. There are as many good aspects to the cabinet design as bad. I'll give Qix a 7.5.

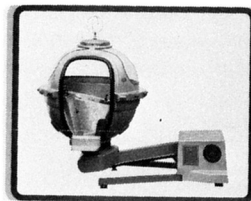
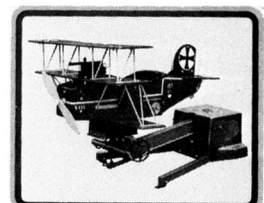
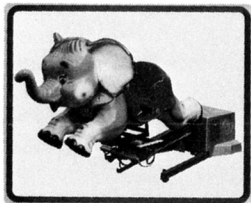
Taito has stated that the board set up on Qix will be the same on future games except that their next game *Grand Champion* will utilize the older board style.

Taito will also in December start shipping Test Tech, its new equipment tester which is self contained in a brief case. Test Tech consists of two separate parts: signature analysis and functional test routines to test and exercise the electronics on logic boards. The functional tests can read and write memory locations and verify if they are good or bad.

The signature analyzer is good for any game and is similar to those produced by Hewlett-Packard and Kurz-Kasch.

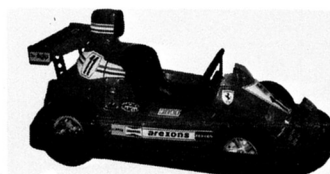
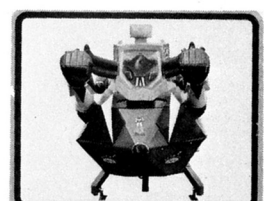
Thanks to Taito's Keith Egging, creative development manager, and Ray Heidel, electronic engineering manager. You can call them on Taito's hotline 800/323-0666.

Contributor Frank Seninsky is president of Alpha-Omega Amusement, Inc. which operates a route including many college game-rooms and Wizard's World Arcade on the New Jersey shore.



SIMPLY YEARS AHEAD

Fully hydraulic. Lifting with rotating action. Sound effects. Flashing lights. Proven money taker world wide.



Speed 6 mph. Battery operated. Coin acceptance 1, 2, or 3 coins or tokens. Any currency. Proven money taker world wide.

Agents wanted throughout United States. Contact:

THOMAS'S LEISURE GROUP LTD.

Clockhouse Stables • Green Street Green Road • Longfield • Kent • England
Telephone: 04747 4462 • Telex: NEWTON G. 21768

A technical look at AMOA '81

By Zac Oliver

There it was. The AMOA show. It was not just another exposition of the coin machine industry. It went beyond. The reflection of a very successful year glittered everywhere—the sidewalks, the eateries and drinks corners, the Conrad Hilton halls, lobbies and elevators. It was party time like we haven't seen before! Cocktail parties were profuse and took their toll, displayed on emaciated faces and bloodshot eyes on the following morning.

Although Wednesday check-in times and handshakes in the hotel lobby joined old friends and faces, the number of visitors at that time reflected what old-timers have been counting on the last few months—a lot of new blood. While, months ago, the immediate response to this influx of new elements was taken as a

positive balance to a healthy competition, the murmur along the walls, on the rides from the airport, and often during the show, was one of concern.

The general feeling was that we cannot foreknow what is going to happen months ahead. The uncertainty was maybe to be cleared up by what the show would have to offer. However, once the exhibit doors were open, the waiting crowd rushed in and it was showtime again.

This year, with relevance to the industry's sudden development and growth, the exhibits displayed a larger variety of distributors and services. The show was subdivided in four exhibit halls and marginal private suite showings

The majority of the space was devoted to the game manufacturers;

however, a large portion of the show consisted of display by game distributors displaying copies and imitations of games. In such a large exhibit, the repetition caused a degrading impression to the amusement part of the show. Those with a limited schedule left the show with the feeling that there were too many copies of the same game and very few new games.

Actually, there were plenty of new products displayed throughout the show. During the period allotted to participants of the show, one must, in an organized fashion, visit points of most interest to him or her.

This year, more than in previous years, there was a large congregation of displays associated with the technological aspects of the games. With pen and paper, I systematically visited the places I thought interesting to some of you readers who for some reason or another could not attend the show. It was practically impossible, physically and chronologically, to visit every booth in the expo. So my notes come from the outstanding or service-wise important sections of the show. I gave little attention to pool tables or the gambling equipment, which in this show became more profuse than before. (Naive as I may seem, I do not consider proper the exploitation of a poor human characteristic being labelled as amusement, no matter how profitable the operation of such equipment may be.) The inclusion of the "A," years ago, in the association name was for Amusement; maybe next year they will change it to GAMOA (not to be confused with the Georgia Association), to officially include the slots, and other types of gambling (or potential gambling) devices.

Back to the tech track, the jukeboxes:

Traditionally located at the end of the lower East Room, it was one of the easiest displays of equipment to be observed. Microprocessor-controlled, the jukes' improvements and innovations had come with every model. Reliability, however,



Showing the Deco game cassette system, Data East reps demonstrated new Pro Golf to AMOA-goers.

DONKEY KONG



Nintendo

Cabanga

CHILLS! THRILLS!
TEST YOUR SKILLS!

DONKEY KONG

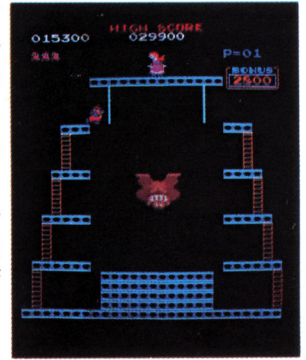
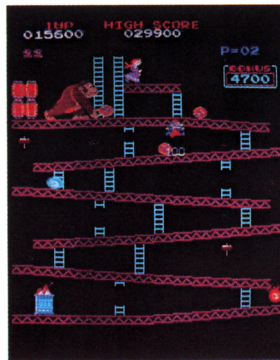
from Nintendo

EVERYONE'S GOING APE OVER DONKEY KONG!

"HELP! HELP!" cries the beautiful maiden as she is dragged up a labyrinth of structural beams by the ominous Donkey Kong. "SNORT. SNORT." Foreboding music warns of the eventual doom that awaits the poor girl, lest she somehow be miraculously rescued. "But, wait! Fear not, fair maiden. Little Mario, the carpenter, is in hot pursuit of you this very moment."

Throwing fate to the wind, risking life and limb, or worse, little

Mario tries desperately to climb the mighty fortress of steel, to save the lovely lady from the evil Mr. Kong. Little Mario must dodge all manner of obstacles—fireballs, plummeting beams and a barrage of exploding barrels fired at him by Donkey Kong.



Amidst the beautiful girl's constant pleas for help, your challenge is to maneuver little Mario up the steel structure, while helping him to avoid the rapid-fire succession of hazards that come his way.

As little Mario gallantly battles his way up the barriers, he is taunted and teased by Donkey Kong, who brazenly struts back and forth, beating his chest in joyful exuberance at the prospect of having the beautiful girl all to himself. It is your job to get little Mario to the top. For it is there, and only there, that he can send the mighty Donkey Kong to his mortal doom. Leaving little Mario and the beautiful girl to live happily ever after. "SIGH. SIGH."

So, if you want the most exciting, most fun-filled, most talked about family video game on the market, don't monkey around with anything but the original Donkey Kong.



COCKTAIL
HT 22¾ in. (580mm)
WTH 33¾ in. (860mm)
DPH 22 in. (560mm)
NET WT 129.8 lbs. (59kgs)



CABARET
HT 55 in.
(1400mm)
WTH 20½ in.
(520mm)
DPH 23½ in.
(600mm)
NET WT 123.2 lbs.
(56kgs)



UP-RIGHT
HT 67 in.
(1700mm)
WTH 23½ in.
(600mm)
DPH 33½ in.
(850mm)
NET WT 220 lbs.
(100kgs)



**THE MOST
EXCITING
NAME IN
VIDEO GAMES.**

Donkey Kong ©1981 Nintendo of America Inc.

Nintendo

Nintendo of America Inc.
18340 Southcenter Parkway, Seattle, Washington 98188
Tel. (206) 575-8191

PRINTED IN U.S.A.

once so present in this field, lags behind on innovations and new designs. The micro electronics had not yet been fully utilized and at this stage it is hard to know if it is profitable to the juke manufacturers to venture so much capital in R&D.

To refute that state of things, Seeburg-Stern displayed a new concept—bound at least to alienate even more the old juke mechanic who is in shock with the new technology. A color monitor is used to display titles, pricing, general information, and even advertising. Information such as the song titles and artists' names are fed to the processor through a keyboard accessible from the upper panel.

Specially coded title strips will be available in the future. These title strips will eliminate the need to punch every new record title being replaced in the jukebox. A metallic wheel located adjacent to the keyboard "rolls" the monitor title display. Similar to some recent Stern games, this wheel activates opto-electronic devices.

The Z-80 processor boards are located in an insulated drawer on the bottom of the cabinet. It also houses the transformers, power supplies, and amplifiers. The Seeburg modified mechanism is simple and uses opto-electronics for scanning.

Reliability factors

Overall, the equipment became more sophisticated with the V.M.C., adding features and more electronics to the juke field. Its flexible programability will certainly be an added attraction to the location's customers, but it also incorporates a very simple system (the title strip) into the measurable unreliability of newly designed electronic systems.

Product reliability is slowly becoming more notable in every manufacturer's product. Although anybody in the field can contest this with plenty of examples, the reliability and quality of the equipment is on the rise. The unreliability aspect is complex, involving such factors as insufficient testing, quality control, design, service back-up, and other areas.

Service back-up is so important that it is a major marketing factor. From the operator's side, the picture is pretty much the same as years ago: insufficient, inadequately trained technical personnel; factory assistance through the customer service departments has been loaded with service calls. Distributors likewise. To fill in this gap, more and more service companies and



Kurz-Kasch's crew (left to right) George Matt, Jim Sneed, and associate were on hand with testing products, as well as instruction in a seminar.



Steve Walko and Amusement Emporium staff exhibited back-up equipment lines.



Wico representatives had replacement supplies in wide variety at AMOA.

products are being added to the industry and were abundant at the AMOA show. Parts distributors and suppliers were displaying their products in every room, from coin mechanisms to color monitors.

Wico and Suzo displayed joystick controls and other game-related products that look far better than the original assemblies installed in the games. Wico has released in the past couple of years products that solve or improve problems recurrent in many games. Of course, the operator ends up with the bill.

Many foreign companies, aside from ones from the Far East, presented components and assemblies, although such displays were oriented toward manufacturing—which not only elevates the internationality of this gathering of the industry, but also changes the AMOA show to a more eclectic exposition, not totally practical for the operator visitor.

Alongside the pool suppliers were coin acceptor and door mechanism manufacturers, showing improvements on both mechanisms. Since most American manufacturers (finally) have adopted either Coin Controls, Inc. or Coin Acceptors, Inc. products, the winner is the operator. (Not without cost and pain, though.) Coin Controls featured its mini single and double doors, the latter with enclosed cash box. Coin Acceptors improved its coin slot rejection button and reinforced reject lever—no total solution to pennies inserted or flipped on Midway's style of doors.

A visit to the Coin Mech booth revealed a modification to the coin chutes on Midway's doors to prevent credits from pennies but almost impractical to be done on location.

Innovative Systems Inc. from Oklahoma displayed a coin sensor device guaranteed to eliminate coin jams (in the acceptors) and total rejection of any type of coins but quarters. The installation of such devices requires additional hardware that in some doors (Midway's) will raise the price to approximately \$150 per acceptor. Coin switches are eliminated. There was no technical representative in the booth for a better explanation of the system; however, the demonstration was pretty convincing. No matter what I did, those tokens, slugs and foreign coins came right out to the return cup. The contrary applies for quarters, even bent and slightly damaged ones.

Electrohome and Hantarex, the latter an Italian electronic equipment

manufacturer, displayed their color monitors. Electrohome had their modified version of the color XY used on *Space Fury* and later Gremlin/Sega games displayed at the show. Its printed material is first class, and so is board layout. With an office in Illinois for sales and service, the Italian firm's products might begin seeing use in future games.

On monitors test equipment, Wico displayed a color monitor test pattern device (raster scan), complete with connectors, priced below Video Innovations' RBG-1 monitor tester priced at \$129. Better yet is the Bench Mate 400 by the same company. It tests color master scan, B&W and color XY. Price tag: \$950. Although these devices were not hooked up, they were displayed at the Atari customer service booth.

So was Atari's CAT box, an amplified version of the ROM-RAM tester with a signature analyzer for the Atari games. Some manufacturers are introducing signatures listings in their schematics, but the diversification in processor and the information supplied requires the use of the manufacturers' supplied test equipment.

In conversation with Jim Sneed from Kurz-Kasch, Inc., the manufacturer of test equipment for the coin machine industry, I was told of his attempt to have the game manufacturers to release the signatures of their microprocessor operations in a form utilized commonly. Jim also was the speaker on a Friday morning seminar on signature analyzers at the show.

Instructionwise, at the show were Cal Clifford, from Cal's Coin College, based in Oklahoma; Nevada Gaming Schools, Inc.; and Randy Fromm, from Randy Fromm's Arcade Schools. Both Randy and Cal stressed the importance of basic electronic knowledge and proper utilization of schematics, basic test equipment and a lot of common sense on the repair of coin operated equipment.

Repair and service back-up was emphasized throughout the show. Major manufacturers had separate booths passing out technical information and assessed by factory engineers and technicians. Technical personnel were also available at the game booths. One can hardly obtain much information in the mayhem and cacophonous atmosphere at the show. It is a time, however, for the operators to relieve their gripes from problems they faced during the year. Most factory

representatives patiently listen but as we know, that doesn't help much.

Do not get me wrong. The game producers want their games to be reliable, and of easy serviceability. But when they come out with mechanisms with which, at first glance, one knows it is not going to hold up to the heavy pace, one wonders....

So one strolls by and into the booths displaying tools and accessories to make repairs easy. They were there this year, in more numbers than last year, but not organized and in insufficient number to justify a visit to the show from the technical standpoint alone.

The games displayed at the show, especially the ones from the major manufacturers, had a few things in common—among others, complexity in play, functions, and technology. Microprocessors are used more liberally as the basic system control for pins and videos. The Z-80 system has become the most employed. Many games employed a combination of processors, such as the Z-80, the 6502, the 6800, the 6802, the 6808, the 6809, and others, even TTL processing.

An answer to mystification

Which leads to the conclusion that the better a technician becomes familiarized with the microprocessor families, the better and easier it will be to repair these games. There's much mystification for lack of knowledge on the subject on the operator's part, which can only be eradicated with proper technical education. There's a myriad of ways of acquiring this education. Manufacturers, distributors, the trade magazines, specialized publications, and schools such as Don Miller's, Randy Fromm's, Cal's Coin College, Don Wright's, and others are all involved in the dissemination of knowledge on the repair and upkeep of the coin operated equipment. It only takes that special desire to know.

Amidst the many games at the show, very few stand out on overall excellence. The most noticeable improvements are on cabinetry. Exidy's heads up the line with a new cabinet combining several features, oriented for ease of servicing—from the joystick, based on the very successful Midway *Pac-Man* joystick, on to the snap-on player controls, easily accessible electronic components, down to back cabinet rollers and recessed power cord.

Taito also introduced changes in

cabinetry with a hinged full length back door and front programming Qix. Its cocktail table seemed a bit too big (27x36 on top glass), with adjustable legs to countertop level.

Atari's *Tempest*, URL approved, and its new cocktail were also improved. *Tempest's* rotary opto-electronics mechanism looks well built.

Universal's *Cosmic Avenger* also introduces cabinetry improvements, although its leaf switches in the control panel do not have enough spring backing. Monitor controls are available on this game in the coin door aperture, but no volume control!?

Nintendo's *Donkey Kong* and Sega/Gremlin's *Fogger* are poorly assembled in standard cabinets, which is a detriment to such good games.

Stern, Bally, Gottlieb, and Williams introduced new mechanisms and circuitry on their new products. Opto-electronics again are being used to substitute mechanical switches.

Bally's three-decker pinball comes with a transparent playfield. I did not have the chance to see how one accesses the playfield on the lower deck, underneath the transparent

layer for cleaning and rubber exchange.

Probably the most changes came with Williams on its prototype "pinball." A new concept in pinball playing, it might not even be classified as pinball. The game concept, one of shooting steel pinballs at a fast rate (max of 5 balls per second), required a redesigned driver board, an extra power supply, shooter mechanisms, and associated driving circuitry.

Due to its mechanical action, the shooter coil is cooled by a fan, and the switches on the top targets were replaced by opto-electronics. Hopefully Williams designers will come up with proper materials and design on this game or else we will be haunted by failures and down time. Remember *Black Knight* problems?

Williams' *Make Trax* is produced under license. Therefore, it does not match the company's games' basic internal layout.

Games under license were displayed by many American manufacturers. Konami, the creator of *Scramble* and *Super Cobra*, had several game concepts on display, nameless, but with a tag number. Stern's new *Strategy X* was one of them.

Copyright infringements and copying was a major issue at this show and we will see more of it if the industry doesn't tackle the problem in unity. Modification kits were again displayed and, alas, Midway has a modification for *Pac-Man!* Williams' *Defender*, too, was "modified" with *Star Gate*, but it comes along with the cabinet and the price tag.

It was a great show. It was also the largest ever, in consonance with the industry growth. There was more to be seen and appreciated than the three days allotted would permit: new games, new concepts, although a new ball game, and with more to come.

The Amusement Operators Expo show at the Hyatt in next spring is sure to amplify what we've seen in Chicago this fall.

The AMOA Expo displayed it all. We are fragmented, somewhat disunited, but not totally alienated. The equipment the industry creates and operates is a part of society and our place in it is as guaranteed as we will allow it to be. We must take advantage of the momentum and direct our steps toward a unification from which we all will benefit. See you at the next show, and good luck!

ROCK-OLA®

COPYRIGHT INFRINGEMENT POLICY WARNING!

Rock-Ola Manufacturing Corporation, Chicago, Illinois hereby proclaims and gives notice that it is the owner of exclusive license rights for the ENTIRE WESTERN HEMISPHERE (United States, Canada, Central and South America), in, to and under all copyrights and trademark rights for the video games "FANTASY"™ and "JUMP BUG"™; and for the United States and Canada in, to and under all copyrights and trademark rights for the video game "WARP-WARP"™.

Any and all unauthorized importation, manufacture, use, sale, leasing, copying or imitation of any of said games, or any other act in violation of Rock-Ola Manufacturing Corporation's exclusive rights in and to said games, copyrights, and trademarks shall result in immediate and vigorous prosecution of the violators to the full extent of the law, including both civil and criminal prosecution and penalties, as appropriate.

**Rock-Ola Manufacturing Corporation • 800 North Kedzie Avenue • Chicago, Illinois 60651
(312) 638-7600 TWX 910-221-2716 International Telex 449-0276**



MUSIC PROGRAMMING

by pat matthews

Songs of the times

I wouldn't exactly call it an avalanche, yet the product is at least beginning to "flow" into these offices. Blame it on the new year we find at hand, write it off to creativity, or, hopefully a sign that we are about to emerge from the depressed times we've found ourselves in recently. Whatever the reason, I feel that music is going to get good again. Soon, too!

Someone Could Lose A Heart Tonight—Eddie Rabbit—Elektra/E-47239

Believe it or not, this latest effort from this ladies' man will be a cross-over hit in three categories—Pop, MOR, and Country. It doesn't even sound country. But, does it really have to? The closest comparison I might make is that it very much sounds like John Stewart's "Gold" from a couple of years back. And that's good! The Rabbitt name and an ultra commercial sound makes for a triple chart smash. Or, in other words, sales on this one could multiply like, er, rabbits...*10 out of 10* all the way around.

Could It Be Love—Jennifer Warnes—Arista/AS 0611

Where have you been, lady? Back a couple of years ago, she was one of the more promising singer/songwriters around. Then she sorta vanished. Well, she's back with her first single in almost two years and hopefully there'll be an lp. Produced by Jim Ed Norman (Anne Murray's), this country tinged electric ballad features the immediately recognizable vocals of Ms. Warnes. It's in a sort of doo-wop

style and that makes for a "happy" sound. I couldn't think of a better way to come back than with this triple chart winner. Same as before: Pop, Country MOR, *10*.

Never Too Much—Luther Vandross—Epic/14-02409

Fast establishing himself in the music business, Vandross is laying some funky jazz tracks for others to follow. This one's almost a strange combination. Besides the aforementioned genres of Soul and Jazz, there's also beautiful music sound to it. Vandross has become a product of the Teddy Pendergrass school whether directly or sub-consciously. *10 out of 10* on Black Radio easily.

Comin' In and Out Of Your Life—Barbra Streisand—Columbia/18-02621

This one's probably the pick of the litter. From a new album, this heart rendering styling of a beautiful new song is done only as Streisand can. If this initial single release is any indication, Barbra has abandoned her light-handed Disco diversions for the moment and put her music into the very capable hands of one Andrew Lloyd Webber. As you already know, he's a songwriter and producer of some reknown, having scored Jesus Christ Superstar, Evita, etc. Some combination, he and Streisand. I guess it's nice when you can afford to surround yourself with only the best. And she has. *10 out of 10* Pop and MOR.

Heart Like A Wheel—The Steve Miller Band—Capitol/A-5068

Talk about your "whatever

happened to...?" Where has he been? Obviously indulging in some sort of environment reminiscent of the 1960s. Miller started back then and he's evidently not afraid to return there musically. On the new album, "Circle Of Love," he goes full circle and includes a cut of sixteen-plus minutes which takes up a whole side! Now when was the last time someone did that (excluding Disco nauseum)? But, the single is great! It's classic Steve Miller Band in a lot of ways featuring an almost Hawaiian sounding rhythm guitar. Slight country overtones won't cause a crossover, though. *9 out of 10* or better.

Only One You—T.G. Sheppard—Warner Brothers/WBS49858

This man has found a groove. And a country one at that. He stays in it and never veers off the road. He's also found a honey who's one of a kind. Nice country fare. Go for it, T.G.!! *10 out of 10* Country.

Leader Of The Band—Dan Fogelberg—Full Moon/Epic/14-02647

It's a song about his dad, reportedly. Written beautifully as always by Fogelberg, he sings this touching, poignant ballad as only a son could sing of his father. In comparing his father to a leader of a band, Dan paints a portrait laced with shivers and tears. The backing accompaniment remains simple and adds to the "feel" of a for-sure hit record. This guy certainly has paid his dues. *10 out of 10* on the highest chart.

Bally[®]

CENTRALUR

Bonus Feature with Lane Change

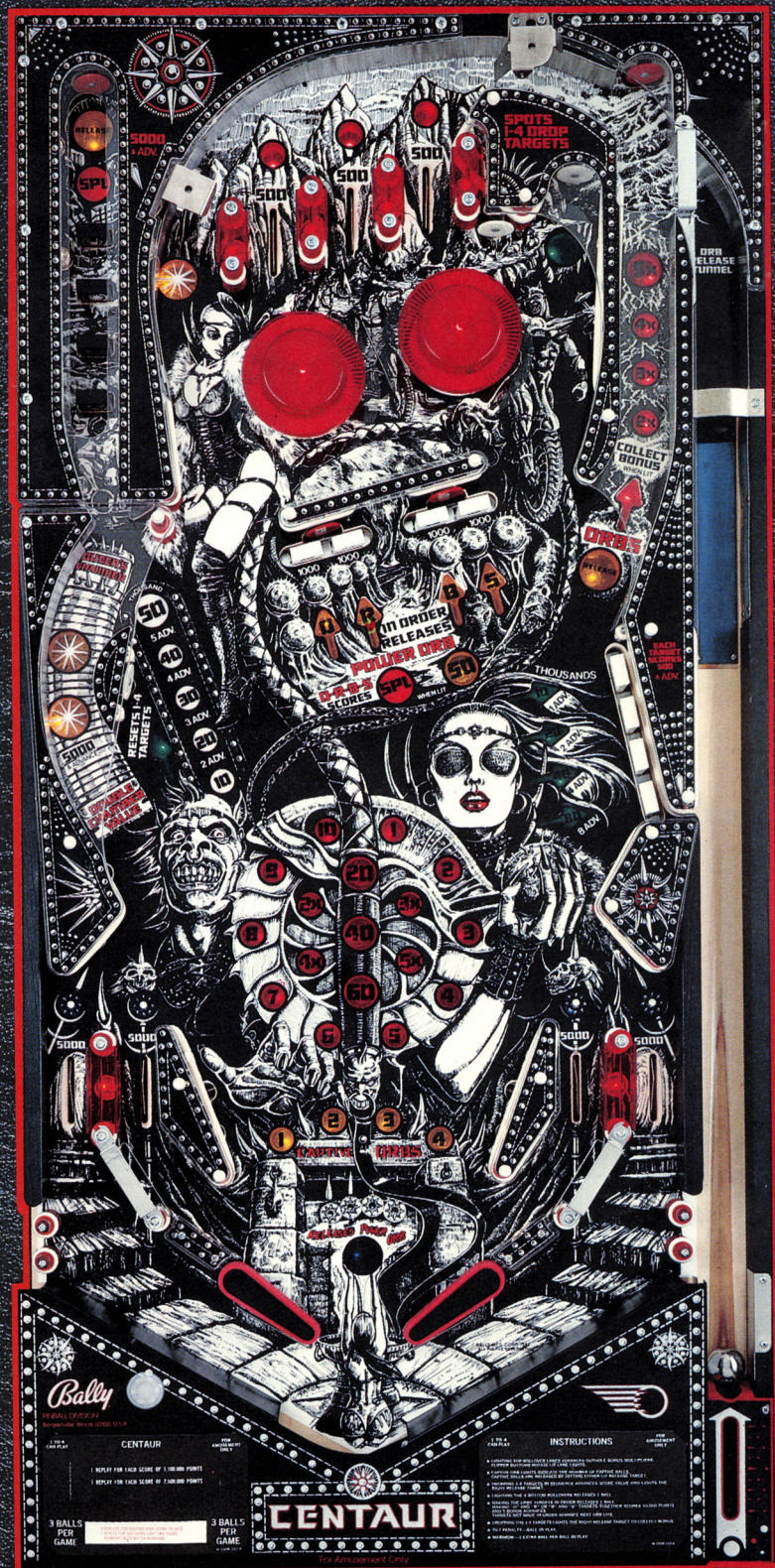
Reinforced by red lights, the Bonus Feature is advanced by the Sequence drop targets, the Orb drop targets, the Stand Up targets, or top lane rollovers. The feature can also be advanced in multiple steps by the Chamber feature drop targets, or multiplied by the rollover sequence.

ORB Feature

The Orb feature is the key to Centaur's unique multi-ball feature. Consisting of 4 Orb drop targets in the center of the playfield, the feature is color coded by amber lights. Knocking down all Orb drop targets, in or out of sequence, will add one ball to the captive ball feature. A minimum of 4 captive balls are stored beneath the playfield at any one time. Captive balls are released one at a time, either when players hit the Orb targets in order, or when the 4 Guardian rollovers are lit. All 4 are released at once by either the Chamber Release or the Sequence Release targets.

Sequence Feature

The Sequence Feature is identified by the green lights and consists of a drop target bank of 4 targets. If hit in order, they will score from 10 to 80,000 points and from 1 to 8 Bonus advances. They also light the right release target and right lane target for bonus collection.



CENTAUR: Awaken

Chamber Feature

A series of in-line drop targets on the upper left playfield guarding a stationary target makes this skill shot feature a challenge. A boot-a-ball, propelled by the game ball, knocks down these targets and scores from 10,000 to 50,000 when lit. Twice the lit value is scored if this ball is hit by way of the Power lane left side rollover.

Guardian Feature

Centaur's blue Guardian rollovers are the first ever to include outlane control, directed by the flipper buttons. The feature scores 5,000 points and releases one ball into play when all 4 lanes are lit.

Equitable Multiball

Unique to Centaur is the Equitable Multiball. Each player must build up his own store of balls for Multiball play, thereby giving no carry-over advantage from a previous player.

Game Over

Attraction Mode

Pushing either flipper button when Centaur is in a game over mode commands the magnificent Voice of Centaur to call out each of the game's challenging features while corresponding color-coded lights flash, attracting game play.



No Other Pinball Looks and Sounds Like Centaur

Powerful, exciting black and white graphics guarantee Centaur to be a standout in any location: Centaur will not be missed.

An all new reverb unit has been added to this exciting package taking Centaur's voice and enticing special sound package farther than any pinball has ever gone.

the Competitive Spirit

CENTAUR

CENTAUR

CENTAUR



Bally

PINBALL DIVISION

90 O'Leary Drive, Bensenville, Illinois 60106, U.S.A. Telephone: (312) 860-6400

The operation of these games and the features therein may be subject to various state and local laws or regulations. It is not intended herein to solicit the sale of such games in any jurisdiction wherein the same may not be lawfully sold or operated.



PROGRAMMED TEST No. 5

DeMorgan Theorem of Negation

[Note: Lesson 5 appeared in Play Meter, January 1 issue.]

Editor's Note: The material below is a serialization of the Kurz Kasch correspondence course for electronics, designed specifically for the coin-operated amusement industry. This course is copyrighted and owned by Kurz Kasch of Dayton, Ohio and its reprinting is being sponsored jointly by Kurz Kasch and Play Meter magazine. This material is authorized for publication exclusively in Play Meter magazine.

INSTRUCTIONS: The purpose of this test is to guide you step-by-step thru actual circuit design problems. Also, many of these tests will provide you with additional design technique. Most important, these tests will provide you with a gauge to establish your degree of understanding of the material covered in the text. The test is programmed. Start at block one and then follow the numbered instruction associated with your answer.

1

When using DeMorgan's theorem, the operation between terms

- a. Remains unchanged GO TO BLOCK 18
- b. Is changed GO TO BLOCK 19

2

Simplifying the expression a step at a time, we have:

$$X = \overline{\overline{A + B + B + \overline{C}} + \overline{B + \overline{C} + D}}$$

$$X = \overline{(\overline{A + B})(\overline{B + \overline{C}})(\overline{B + \overline{C} + D})}$$

$$X = (\overline{A + B})(\overline{B + \overline{C}})(\overline{B + \overline{C} + D})$$

Using Theorem 7 $X = (\overline{A + B})(\overline{B + \overline{C}})$

Did you get the same results? If not, **do not** go on but check.

The expression

$$(A + B)(C + D) = X$$

is referred to as the:

- a. Product-of-sums form GO TO BLOCK 9
- b. DeMorgan's theorem GO TO BLOCK 8

3

YOU ARE INCORRECT!

Refer to the text and return to BLOCK 9.

4

The expression we are looking for is:

$$\overline{(A \cdot B \cdot C) + (\overline{A} \cdot \overline{B})}$$

Following DeMorgan's Theorem, we start by inverting each of the variables.

$$(\overline{A} \cdot \overline{B} \cdot \overline{C}) + (\overline{\overline{A}} \cdot \overline{\overline{B}}) \quad (\overline{A} \cdot \overline{B} \cdot \overline{C}) + (A \cdot B)$$

Finally, each of the signs is changed:

$$(\overline{A} + \overline{B} + \overline{C}) \cdot (A + B)$$

Did you get the same result? If not, **do not** go on but check.

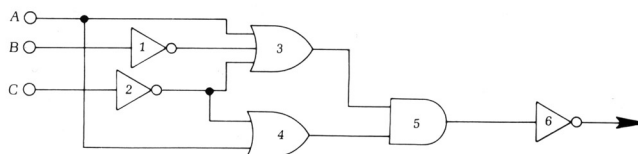
Simplify completely the following Boolean expression. (Hint - Start with DeMorgan's Theorem.)

$$\overline{(A + \overline{C}) \cdot (A + \overline{B} + \overline{C})}$$

GO TO BLOCK 14

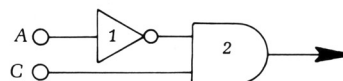
5

The given expression, $\overline{(A + \overline{C}) \cdot (A + \overline{B} + \overline{C})}$ would be implemented with the following circuit.



Total number of gates = 6.

Drawing the circuit for the minimized expression, $\overline{A}C$:

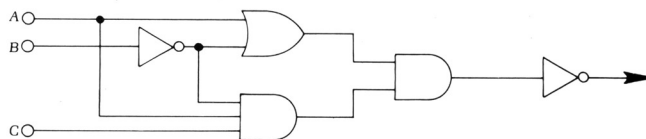


Total number of gates = 2.

In this case, minimization saves four logic gates.

Did you get the same result? If not, **do not** go on but check.

Simplify the following logic circuit, eliminating all unnecessary gates. (Use algebraic reduction.)



GO TO BLOCK 6

6

We begin by writing the Boolean expression for the circuit. Since the output is taken from an inverter, the entire expression must be inverted.

$$\overline{(A + \bar{B}) \cdot (A \cdot \bar{B} \cdot C)} = X$$

We must now apply DeMorgan's Theorem to remove the vinculum.

$$(\bar{A} \cdot B) + (\bar{A} + B + \bar{C}) = X$$

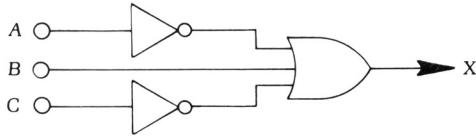
Using Theorem No. 1, we rearrange the terms in the expression:

$$[\bar{A} + (\bar{A} \cdot B)] + B + \bar{C} = X$$

From Theorem No. 6, we see that the terms in the brackets are simple \bar{A} :

$$\bar{A} + B + \bar{C} = X$$

The logic circuit for this expression is:



Simplify the following expression using DeMorgan's Theorem.

$$X = \overline{\overline{A + B + B + \bar{C} + B + \bar{C} + D}}$$

7

GO TO BLOCK 2

YOU ARE CORRECT!

Use DeMorgan's Theorem to find the inverse of the following expression.

$$(A \cdot B \cdot C) + (\bar{A} \cdot B)$$

GO TO BLOCK 4

8

YOU ARE INCORRECT!

Refer to the text and return to BLOCK 2.

9

YOU ARE CORRECT!

The expression

$$(ABC) + (CD)$$

is referred to as the:

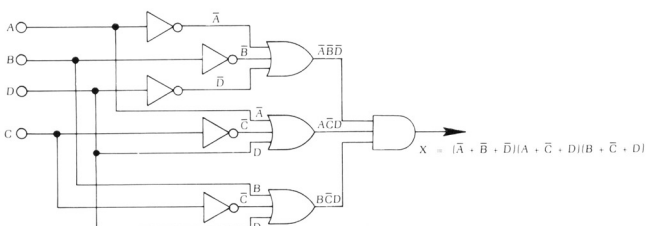
- Inverted model GO TO BLOCK 3
- Sum-of-products form GO TO BLOCK 17

10

YOU ARE INCORRECT!

Refer to the text and return to BLOCK 19.

11



Did you get the same results? If not, do not go on but check.

To obtain the expression

$$X = \overline{(\bar{A} + \bar{B} + \bar{D})(A + \bar{C} + D)(B + \bar{C} + D)}$$

from the above, we would:

- Use DeMorgan's Theorem GO TO BLOCK 20
- Add an inverter to the output GO TO BLOCK 13

12

Use DeMorgan's Theorem.

$$X = \overline{(A + B + D)(\bar{A} + \bar{C} + D)(B + \bar{C} + D)}$$

$$X = \overline{(A + B + D)} + \overline{(\bar{A} + \bar{C} + D)} + \overline{(B + \bar{C} + D)}$$

$$X = (\bar{A}\bar{B}\bar{D}) + (\bar{\bar{A}}\bar{\bar{C}}\bar{\bar{D}}) + (\bar{B}\bar{\bar{C}}\bar{\bar{D}})$$

$$X = (\bar{A}\bar{B}\bar{D}) + (AC\bar{D}) + (\bar{B}C\bar{D})$$

Did you get the same results? If not, do not go on but check.

Draw a circuit for the new expression for X.

GO TO BLOCK 15

13

YOU ARE CORRECT!

You have completed the test for Lesson Five. However, before going on you should review any area in this lesson you do not fully understand.

14

Since the entire expression has been inverted, we apply DeMorgan's Theorem by inverting the variables and changing the signs between them. This yields:

$$\bar{A} \cdot C + \bar{A} \cdot B \cdot C$$

Next, we factor $\bar{A} \cdot C$ from each side.

$$\bar{A} \cdot C \cdot (1 + B)$$

Since $(1 + B) = 1$, we have:

$$\bar{A} \cdot C (1) = \bar{A} \cdot C$$

Notice that the solution, $\bar{A} \cdot C$, is independent of B.

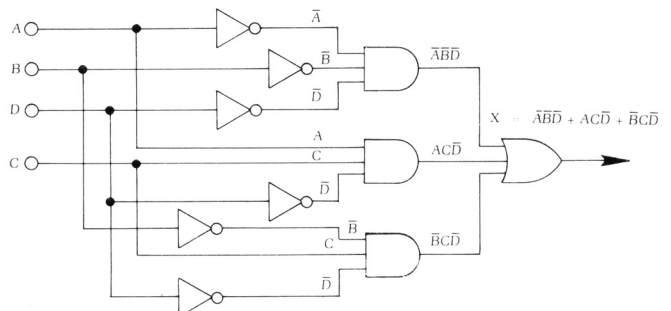
Did you get the same result? If not, do not go on but check.

If the Boolean expression in this problem had been implemented with I.C. logic gates, how many gates would be saved by minimization?

GO TO BLOCK 5

15

The circuit is as follows:



Did you get the same results? If not, **do not** go on but check.

Express the following in product-of-sums form

$$X = \overline{(ABD) + (\overline{ACD}) + (\overline{BCD})}$$

GO TO BLOCK 16

16

Using DeMorgan's Theorem:

$$X = \overline{(ABD) + (\overline{ACD}) + (\overline{BCD})}$$

$$X = \overline{(ABD)} \overline{(\overline{ACD})} \overline{(\overline{BCD})}$$

$$X = (\overline{A} + \overline{B} + \overline{D}) (A + \overline{C} + D) (B + \overline{C} + D)$$

Did you get the same results? If not, **do not** go on but check.

Draw a circuit for the above expression.

GO TO BLOCK 11

17

YOU ARE CORRECT!

Express the following expression in sum-of-products form.

$$X = \overline{(A + B + D) (\overline{A} + \overline{C} + D) (B + \overline{C} + D)}$$

GO TO BLOCK 12

18

YOU ARE INCORRECT!

Refer to text and then return to BLOCK 1.

19

YOU ARE CORRECT!

DeMorgan's Theorem is useful for

- Circuit "Hazard" Elimination GO TO BLOCK 10
- Finding the inverse of a function GO TO BLOCK 7

20

YOU ARE INCORRECT!

Refer to the text and return to BLOCK 11.

British blue suede

What the British coin trade press calls "one of the skeletons of the amusement industry cupboard" was exposed in mid-November by BBC Radio 4—rip-offs of gullible investors.

As detailed from U.S. instances of blue-suede shoes video sellers recently in *Play Meter*, so did the BBC's consumer-oriented program find "blue sky" being peddled in electronic coin-op games.

Coin Slot of London commented on the rip-off schemes: "One particular company was named on the program but there are a number operating in this field. The system works like this: The companies advertise nationally that they have a high-return investment prospect...a sited video machine. Once a sales lead is obtained, an agent for the advertisers, working on a commission basis, gives the prospective investor a hard and often misleading sell about the high returns likely from a video.

"Many of those given the hard sell apparently take the bait and lay out upwards of £1,000 on machines. According to some of those who have done this, who were interviewed on the program, they are promised ownership of a new machine to be sited on a good site, and insured and maintained by the company."

In fact, all doesn't work out well, said the reports. A man who paid £1,350 said he expected a return of £45 a week, and he got a total of just over £60 over a five month period. A woman who spent £1,437 said she was told to

expect a return of £50 - £100 a week, but she received "next to nothing."

The British trade press saw the emerging rip-off deals as fuel for media enemies of the coin-op industry to use in their knocking campaigns.

Coming: Play Meter Directory

In preparation for its Annual Industry Directory Issue (cover date of March 1, 1982), *Play Meter* will produce as comprehensive a listing of all firms in the 1981 Directory for updating the information listed.

Any firms in the industry segments covered, which were not included in the Directory's listing pages in the past, should contact *Play Meter* editorial offices before January 1 to make sure of inclusion for 1982. An officer of the firm should state its address, officials, telephone numbers, and lines of equipment or services represented.

The Directory categories include all U.S. amusement machine manufacturers, U.S. distributors listed by state, national and state associations, exporters and importers, and foreign manufacturers and distributors.

In the Support and Supply section, the categories of companies include: Replacement Parts, Repair and Service, Test Equipment, Technical Instruction, Coin Acceptors, Bill Changers/Coin Counters/Sorters, Token Suppliers, Locks, Security Systems, Chemicals/Cleaners; Installation Equipment, Mobile Radios, Marketing/Management/Promotions, Conversion Kits, Route Accountability and Computers, and a miscellaneous category.

Mali

The Henry W. Mali & Co. Inc.
257 Park Ave. South
New York, NY 10010
(212) 475-4960

Call Toll Free: (800) 223-6468

Billiard Cloth

Style 820—Plain, Style 920—Backed
Fabrics developed specifically for
coin-operated tables.

Available through your distributor.
Write or call for color card.



FROGGER, MOON WAR on review

The sounds of video

By Mike Bucki

Sharp, colorful images, an interesting yet challenging game plan, and responsive controls...all are a part of the most successful games, pins or videos. And yet one element sometimes overlooked by the games programmers and designers, and by you while evaluating that potential next purchase, is often the initial attention grabber, the element that first attracts a player to a new game or a new player to any game...and that is sound. Complementary sound(s) I might add.

Think about the current crop of winners for a moment—the squeaky

grinding munch of *Pac-Man*, the ominous pick-up-the-pace warning of *Asteroids* just before the enemy spaceships attack, the imperious challenge of *Space Fury*, the march of the *Centipedes*—the sounds of success are complementary; they're integrated into the game design.

Afterthought sounds reveal themselves rather quickly, as in *Vanguard*. On the other hand, sharpness and clarity can enhance both sounds and images, even to the point of mitigating, somewhat, the frantic difficulty of playing *Super Cobra*. Timing enters this symphony, too. Consider *Defender*,

which welcomes (?) the player with a threatening bass guitar twang as soon as he drops the first quarter in the slot. The start button brings up a short rock-like prelude which segues into the sounds of an outer space battle. And that's just the beginning!

So think about the sounds before ordering two or three of that "hot" new item. When and where do the sounds come in? Do they enhance the game play? Do they excite the player, heighten his anticipation, or give him a hint of what's coming? Is the display mode silent, or active and inviting? Are the sounds clear and precise? Were they designed as part of the game or added afterward? Are there too many or too few? Do they confuse or explain?

Sounds aren't the most important element but, poorly handled, they can ruin an otherwise good game.

Frogger by Gremlin/Sega

Here the designers were apparently well aware of all the key elements, including sound. With a few minor qualifications, I think *Frogger* is a big winner or soon will be.

PLAYFIELD: It's deceptively simple. There's only one control, a joystick. With it, the player jumps the frogs, one at a time, across a four-lane highway and a river filled with logs, turtles, alligators, and snakes. When each of five home bases have been filled with a frog, the game quickens and obstacles multiply. The object is to avoid the highway traffic, the sunken turtles, the snakes, and the alligators and occasionally pick up a lady friend and take her home for bonus points.

ANALYSIS: *Asteroids*, *Defender*, and *Centipede* addicts might sniff, haughtily, at first glance, thinking *Frogger's* too tame for them, but they'll quickly come around. It's not as easy as it looks. After several's hours' play my highest score was 9470 and you don't get an extra frog until 20,000. A possible Max-Out



Lil' Hustler



Lil' HUSTLER



Dimensions (Upright)

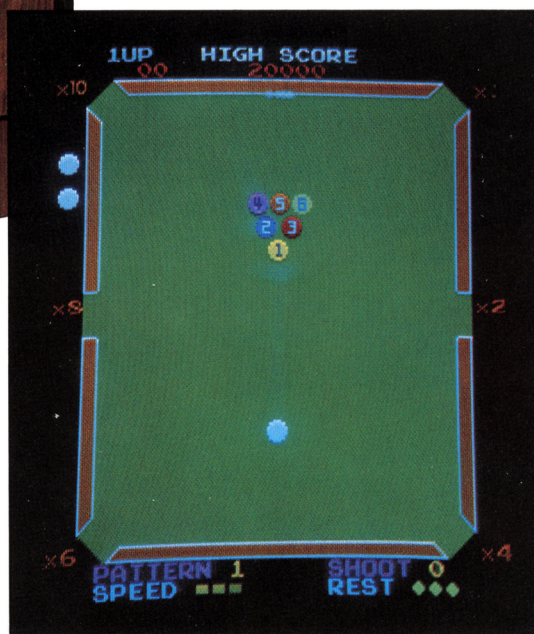
Height 70 inches
Depth 29¾ inches
Width 25½ inches

FEATURES

- ① Six pocket realism takes advantage of nation's love of pool
- ② Ease of operation makes game appealing to men, women and kids of all ages
- ③ Long-lasting player appeal will result in extended earnings
- ④ Operator can control degree of difficulty and playing time
- ⑤ Cabinet designed for fast, efficient maintenance with spare parts readily available
- ⑥ Game available in upright and cocktail table models

HOW TO PLAY

- ① Game begins with rack of six balls
- ② Target dot moves around table cushion to align cue ball
- ③ Shoot button moves cue ball toward target dot; cue ball hits any object ball in its path
- ④ Continually rotating "Speed Bars" vary force of stroke on cue ball
- ⑤ If three shots are made within allotted time, extra shots are awarded
- ⑥ Bonus points are earned if all object balls are sunk in six shots
- ⑦ Double score is earned if two object balls are sunk in one shot
- ⑧ A bonus cue ball is awarded if player earns 10,000 points



Lil' Hustler is manufactured by Dynamo Corporation under exclusive license from Konami Industry, Osaka, Japan.

Distributed by:



1805 S. Great Southwest Pkwy.
Grand Prairie, Texas 75051
Telephone: 800-527-6054 or 214-641-4286
Telex: 732432

© 1981 Dynamo Corporation. All Rights Reserved.

warning seems in order, however. That 9470 score of mine translates into five minutes playing time.

But my average playing time, for the first hour or so, was 2:02. The first few exploratory games took up less time and the overall game length picture looks about right for both operator profits and players' pleasure.

Useful sound permeates the entire game of *Frogger*. Successful leaps and failures are signalled differently and a cute song plays throughout each frog's journey. The song may be a little too cutesy for some but it fits snugly into the mold of the game. As do the images, colorful and clear for the most part, with one notable exception. The lady frog that flits back and forth on an occasional second row log, that same lady frog that can be carried home for bonus points—her image is fuzzy and I thought at first she was an enemy, something to be avoided.

Another minor glitch is the joystick. To jump the frog left or right, up or down, the player must push the joystick precisely in that direction, not always easy to do when in the heat of the jumping fray. An only slightly off-direction push seems to favor the direction 90 degrees away from that desired. That may frustrate some players who might otherwise stay with *Frogger* as many now remain with *Pac-Man*.

The play is simple—yet difficult as you progress. The game is colorful and attractive. The only major factor that might lessen *Frogger's* potential success is *Donkey Kong*, a game which I understand is somewhat similar. I haven't seen one yet; it disappears from the distributor's showroom before I get there, despite the best efforts of Billy Weiss at Greater Southern of Atlanta. He calls me whenever a new game arrives but I can't always drop everything and run over. (Thanks anyway, Billy.)

In the meantime I'll go with these high marks for *Frogger*:

ITA -2 (*Immediate Turn Away Factor*)

MO -5 (*Max-Out rating*)

CB +8 (*Come Back rating*)

For those who haven't been with me in previous columns, a -10 is the worst possible ITA or MO rating, 0 is

the best; while CB ratings are set on a scale of 0 to +10.

Ooops!...almost forget. There's a time element in *Frogger* which increases the challenge of the game, a 60-unit timer, roughly equivalent to 30 seconds, begins counting down at the start of each frog's journey. The faster the frog leaps to home base, the more points scored. The timer adds just the right touch to an already well designed game.

Moon War/Stern

Moon War by Stern possesses some of the elements of a great game but there are major flaws barring the door to success.

PLAYFIELD: Across a flat beige moonscape the player flies his ship to each of ten fuel bases, destroying enemy targets along the way. The control panel includes a fire button, a thrust button, and a shield button for both left- and right-handed players, plus a steering wheel and a hyper flip button positioned in the middle of the control panel. The hyper flip button flips the ship in an instantaneous 180-degree turn. The steering wheel is actually a wheel, two-thirds recessed into the control panel. Roll or spin it left or right and the nose of the spaceship swings accordingly.

When a player lands his spaceship at a refueling base, the value increases for the next round of targets...or so it seems, but it's not consistent. Why, I don't know.

ANALYSIS: The screen is dull, flat, and almost colorless. Small craters are depicted on the moonscape but they don't enter the play of the game. The player's ship and the enemy targets are colorful but the images lack sharpness.

On the positive side of this critique, *Moon War* displays two features at the top of the screen which prove very useful to the player. Both a fuel gauge and a shield gauge begin counting down from 99 after refueling. Get too low and you'd better hurry on to the next base.

The sounds of *Moon War* rank from fair to good, the shooting sounds come through fairly crisp but the explosions are a little muddy. The thrust sound effect and the refueling, the whirr are realistic but not outstanding.

Back to the negative, the control

panel contains several weaknesses. As the enemy targets are frequently few and far between, scattered over a broad landscape, astute players will soon discover that the thrust and fire button can be held down. The fire button will continuously fire a three-round salvo, pause slightly, and fire another three round salvo, over and over and over.

If the player's ship is flying too fast toward an enemy he's failed to destroy, he need only hold the shield button down for a second or two and bump the enemy away just far enough for a better shot. The player then quickly learns to release the thrust button only when he's about to land at a refueling base. There he's impregnable, so he can pick off the enemy ships he missed on the way in—or more accurately, the enemy ships he could easily shield/fly by.

To a player, the shield of *Asteroids Deluxe* is too short—but *Moon War's* is too long. Being able to hold down the thrust and fire buttons, and occasionally thumb the shield button takes away the challenge. The only active participation left is the steering wheel and the almost redundant hyper-flip button. The hyper-flip button wouldn't be needed at all if the steering wheel responded faster to the player's direction.

The steering wheel is a good idea, better than say the two-button attitude control, but it's not carried off properly in *Moon War*. There's too much play in the wheel. Quicker response, like rack and pinion steering in an automobile, might do the trick. Even better is *Omega Race's* fist-sized knob which responds accurately and quickly.

In summation, while some players may easily max-out *Moon War*, most will simply be bored. It's sort of like coming back from a gourmet's tour of Europe. It would be awful hard to eat at McDonald's afterward, don't you think?

RATING:

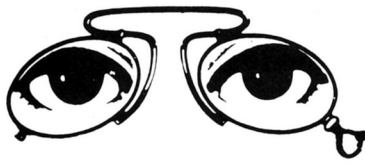
ITA -6 (*lack of color, mainly*)

MO -6

CB +1

And next time, I'll tell you about a game that delivers what most promise, fun and challenge for novices and experts...on 99 different levels! But I'm not going to tell you its name, until next time. ●

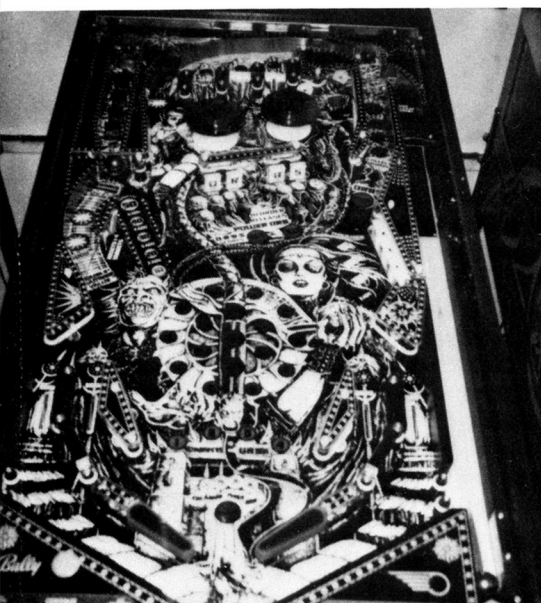
The hyper-flip button on *Moon War* wouldn't be needed at all if the steering wheel responded faster to the player's direction...



Critic's Corner

By Roger C. Sharpe

Pins: a whole new ball game



Bally's CEN TAUR

With the new year becoming more of a reality, the one thing that's certain is that all of the coin-machine industry is going to have to adapt to what is fast becoming an ever-changing world. We have been bombarded all too frequently with the public's unrest over the value and/or harm of video games as the attention increases regarding their phenomenal popularity. It is, in truth, a condition that always plagued the business whenever any type of equipment gets too much of the limelight as far as "concerned" parents and press-hungry politicians believe.

But more than this storm—which will undoubtedly be weathered, since the industry has a sense of survival and is now too big anyway to write off—is the concern over continued product development, innovation and technological advancement. Unfortunately, the nature of the industry is bound up in keeping the status quo and staying with what might be considered the "good thing" until it's been done to death and market pressures dictate a change.

Whenever things are going badly, whether it's an individual company or some segment of the industry, the emphasis suddenly shifts to pulling out all stops in order to get back on top. But push has to come to shove before the motivation seems to take over. The end result is that everyone gets cheated a little, from the designer and the programmer who have an idea that's *ahead of its time*, to the manufacturer and distributor who might actually be able to make a bit more money on the product if they gave it a chance, to the operator who might even earn some more

money on his investment—and lastly, to the player who has to wait for things to happen in order to get different attractions that he might not know he wants until given an opportunity to see it.

It's too bad, because the current changes in video, for the most part, have only been cosmetic, with no one willing to stray too far from what has been accepted as the norm. Admittedly, there is probably no need to shake up the apple cart since everyone is making money and selling games right and left, but it's such a narrow vision of what the future can potentially be.

As for pinball, there's a sense of urgency to find the magic formula, which doesn't exist, in order to bring the game back to where it once was. The pity is that so much is being done, with a variety of marvelous efforts, and the credit or recognition just isn't there to the extent it should be. However, it continues, in the face of adversity that might lessen given the state of the current crop of games.

We're on the brink of a revolution that will find us with new forms of games, whether inspired by *Hyperball* or *Caveman* or some other, as yet unknown machine. Everyone is looking for the secret and it doesn't take much of a gambler's mentality to know a good bet when there is one. It's really irrefutable since you consider that nothing has really happened in about ten years. That's far too long to keep all the creativity and potential of the new technology under wraps, so something is bound to happen.

Even with pinball there's a remarkable change under way as witnessed

by many of the recent and upcoming games, including this issue's effort. What I have noticed and recounted many times on these pages before, is that there have been some ingenious steps made in pinball design and programming. Almost every machine has its own touch that sets it apart from all that have preceded. As you'll soon see, Bally's *Centaur* is no exception.

Bally's Centaur

Given the number of machines they've produced this year, one could assume that this company has been the most aggressive in trying to capture the pinball audience. With this total effort, they should succeed in that goal.

PLAYFIELD: The action begins with three top lanes and leads down to two thumper bumpers. Just to the right of this is a recessed target which spots a drop target further down on the field. At the middle of the field is an interesting configuration of drop targets O-R-B-S, which is separated by a small opening in the center. At the right is a long narrow lane that can give access back to the top, but has more use for releasing captive balls in this multi-multi-ball game.

Over at the left, for balance, is a deep set of in-line targets with a captive ball, known as the chamber feature, for increase point totals and also a chance for specials and the release of any captive balls. Just below this is a little curve with two roll-overs that can lead a ball from the flippers right into contact with the captive ball of the "chamber." To the right is another target, while over further at the right is a set of four sequence drop targets for increased point values and out-hole bonus points.

The bottom is a departure, reminiscent of *Viking*, with two outside lanes that have some posts for knocking a ball back up to the interior lanes and to the flippers.

ANALYSIS: Not only is *Centaur* a fully-loaded, remarkable machine the company is billing as "the first real equitable multi-ball game on the market," but it also has some innovative touches. I remember a conversation with Paul Faris a few years back in New Orleans at the first AOE show where we talked about some artistic concepts including the possibility of doing a totally black and white game. Well, he's come pretty close here, with only some red for backglass and playfield highlights taking away from the total effect of what has become a color-

coded machine.

The attract mode, which can be activated by just touching either flipper button, when the game isn't in play, is interesting because the lights flash in sequence and color throughout the board. The top three lanes, with a flipper control, mean bonus multiplier, while the center targets, in amber, tie into releasing and building up what can be four multi-balls in addition to the ball in play.

The right side targets, in green, are tied into the left side target as well as the upper right one just below the lanes. The bottom blue lit lanes next to the flippers, also flipper controlled, can mean the release of a multi-ball when all four are gotten. In all, there's a lot going on and Bally even has a "player's guide" breaking down the features and strategies.

In fact, J.P. has loaded the game to the hilt, with the play centered around getting multi-ball, which is accomplished by hitting the O-R-B-S targets in sequence for an immediate release, or hitting them down out of sequence and building up the number of potential captive, multi-balls in the memory up to the max of four. These can be released by completing the lower blue lanes next to the flippers or shooting the ball up that right passageway when it's lit.

The rest of the board is for increased point totals which can also mean a great deal of points due to the 60,000 and 5X possible held over in the memory. The nice touch is the "orb release tunnel" in the shooter lane at the top of the arc, which utilizes that old metal trap door as found on the old baseball arcade games and most recently on Gottlieb's *Volcano*. It's far more effective here only because the balls are shot upward to the top lanes and not directly at the flippers, so that the player can get a bit more time to react to what will be a frantic amount of time in multi-ball play.

GRAPHICS: As I mentioned earlier, *Centaur* is predominantly a black and white machine with a motif that is kind of a return to Bally's more violent renditions graphically. As a press release states, "you can't help but notice the game," which is an understatement since it should stand out from any crowd. Also the lighting effect, which goes into a special mode when balls are released, and the addition of sound and voice, make it a totally integrated package showing a great deal of time, care and thought.

PLAY: The scoring can tend to be

high on the game, even though there is no real way to get an extra ball, except off the special in extra ball areas. To combat what might be elevated seven-digit scoring, you might want to attempt some operator adjusts in the memory such as the bonus multiplier or the orbs, but this defeats the purpose of the game (and probably won't matter too much anyway, since one location I know of which tried this is facing a high score of over 8 million anyway).

For limits, in free ball areas try a 500,000 point level to start, followed by 1,500,000 points. On free play, you might want to increase this by about 500,000 to 750,000 points for each, depending upon the caliber of your players and your percentaging.

PROS & CONS: There's not too much to find fault with on *Centaur*. It features a good balance of features throughout the board; good use of space and available features, such as the flipper buttons and the top as well as bottom lane change; something that looks like a magnet that "holds" the ball at the right time at the top of that right side Orbs passageway which can also be a collect bonus when lit.

Even the left side with that captive ball and in-line-target set-up is nicely placed for a direct hit from the flipper or as a result of going around that small arc/roll-over lane. The roll downs from too soft a hit to the right side lane, or on rolls from between the O-R-B-S targets as well as the left side from the top lanes, isn't too bad and seems equitable the majority of the time.

But the biggest problem, and this game's one failing since it is so crucial, is the lack of power in the flippers over time. They become "spongy" and weak, a problem the company has had on *Fathom* and *Medusa*. It's a shame, because the game doesn't play up to its capabilities with the weakness of the flippers. I don't know if there's anything that can be done mechanically to salvage the situation, or if Bally is even aware of the problem and has any suggestions, but do look into the alternatives that may be open to you, since the game deserves that much to prove its true worth in the field.

It's an enjoyable game to play, one of Bally's best in a long time, challenging and even fair for the average player, but the rating loses out because of those flippers, which is too bad, but hopefully can be rectified in the future.

RATING: ###3/4



Exidy snaps its Mousetrap

Exidy has introduced its *Mousetrap*, offering both exciting game play twist and the new Exidy Operator Convenience Package—a cabinet design featuring total front access for service convenience, 4 separately locking doors for maximum security, and two large heavy duty casters, hand grips, and slide rails for ease of transportation.

Mousetrap players guide a mouse around a playfield full of pieces of cheese, which he chomps for points. Other red prizes offer bonus value. The mouse also searches out dog bones which are accumulated at the top of the screen. Each bone allows the mouse to become a ferocious dog for several seconds when the "dog button" on the control panel is pressed. The dog can eat cats for additional points. When all the cheese morsels are gobbled up, bonus points are awarded and the player is given another game field with more challenge.

A purple hawk randomly appears, flying above the walls in search of a delicious mouse or dog. The player's only defense is to enter the secret passage marked "IN" at the center of the screen. This quickly transports the mouse or dog through an unseen tunnel to one of the four corners. This tactic makes the hawk "dumb," or aimless in his flight. The mouse or dog can then escape the hawk.

There's more than one way to skin a cat...Player controlled doors (three different colored buttons on the control panel) open or close three colors of doors which may block a cat's advance.



Gittey-up video

Centuri, Inc. has entered into a licensing agreement with the Japan-based Hiraoka & Co., Ltd. to manufacture *Round-Up*, a fast-paced, Western-style video strategy game.

Centuri President Ed Miller said that, under the terms of the agreement, Centuri will have exclusive manufacturing rights to *Round-Up* in upright and cocktail table models for the United States, Canada, Central and South America, and the Caribbean.

As the first round begins, the game's main character, Cowboy, is introduced and guided by the player with a 4-position joystick through a bright blue maze where Cowboy encounters the "bad guys" (who he must avoid) and the "good guys" (who he desires to capture).

The bad guys, the five Gly-boys named Ghastly, Beastly, Homely, Ugly, and Deadly, lie frozen in a corner of the maze anxiously awaiting for life to enter their bodies so they can one-by-one wander through the maze in aggressive pursuit of Cowboy.

Capturing the good guys, the White Knights, Red Knights and King Rompus, not only gives the player a high point value, but also allows Cowboy added movement advantages and significant protection from the bad guys.

The final phase of the game fills the screen with a large multi-color electronic cube and simultaneously features a smaller sample cube located in the lower-right corner of the screen. An arrow is moved right or left around the cube with the joystick and the colors are rotated with either the left or right color cube select button. By recreating the exact color patterns of the sample cube within the allowed time, bonus points are awarded.

As each Knight or King Rompus is caught by Cowboy, another enters the maze to take its place. The game is over when all Cowboys have been "rounded-up."

Players, start your engines!

Taito America's *Grand Champion* puts players in control of "the ultimate driving game."

The game is played on a plotted race course capturing racing realism. Cars take their positions at the starting line and rev up their engines. The flag is lowered and the race is on. The player shifts to high gear and breaks from the field, flooring the accelerator to lap his opponents. Along a rain-slicked course, through thunder, lightning, rain, sleet, and snow—along a track that suddenly divides—through a dark tunnel and a blinding fog, it's a race against a field of speeding daredevils...and it's a race against the clock!

As the player burns up the road, the Radar Screen lets him scan the positions of the other cars as it warns him of the realistic hazards that will challenge his skill, perception, and his ability to react quickly. The Rank Position Indicator flashing his progress all through the race, together with words of encouragement and challenge, urge the player on faster and faster unless a collision takes him into the pit and slows down his race to the finish. If a player is ranked among the top cars at the end of the race, he gets a chance to conquer the next, even more difficult course.

Grand Champion's sleek, space-saver, fully loaded cabinet is domestically manufactured. It positions the controls within easy reach of all players.

This new video game, recently introduced at the AMOA show, offers operators the flexibility of a service priority cabinet. *Grand Champion* is available in a 19-inch upright from Taito America Corp.



Insect species video appears

Universal U.S.A., Inc. is now shipping *Lady Bug*, a new maze game concept. *Lady Bug* gives a new dimension and challenge to the already skilled maze game player. Also *Lady Bug* is getting play from a lot of ladies, according to the manufacturer.

The game begins with joystick action controlling "Lady Bug." The objective is to wipe out all of the Enemy Beatles—Lucanus, Longicorn, Anti-lion, and Rearhorse.

Only Lady Bug can use the turnstile (gate) to dodge the Enemy Beatles. When Lady Bug hits the Skull Mark or is eaten by an Enemy Beetle, she disappears. When players lose all of their Lady Bugs, the game is over. The response to *Lady Bug* at this year's AMOA was strong and we are prepared to deliver product.

Universal announced that its three plants are geared up to produce *Lady Bug* in the quantities that the market will demand. "This combined with a well stocked parts inventory and strong Customer Service Department will keep Universal games producing healthy cash box collections," said the manufacturer.



Change-a-mole?

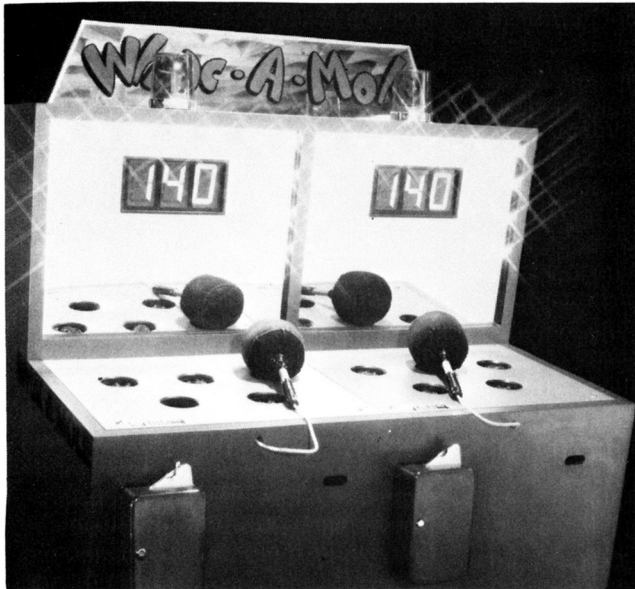
The *Whac-A-Mole* has become a popular arcade game in a variety of locations, according to its marketer, Bob's Space Racers, of Daytona Beach, Florida.

Each player is confronted with a board containing five mole holes. After money is deposited, the moles begin popping out of their holes at random. Players strive for high scores by hammering the moles on the head before they can pop back into their holes.

The game is designed for two players to compete simultaneously or for single players to challenge their own scores.

The game can be custom-made to fit the theme of many operations. The moles may be replaced with characters including bats, sharks, monsters, snakes, or jokers.

For further information about the *Whac-A-Mole*, contact Bob's Space Racers, 427 15th Street, Daytona Beach, Florida 32017; phone 904/677-0761.



Coin-op light swords

Robot Wars is a new coin-operated game playing on the "Star Wars" fascination and being marketed by Promotional Concepts, Inc., the Atlanta-based producer of remote control robots.

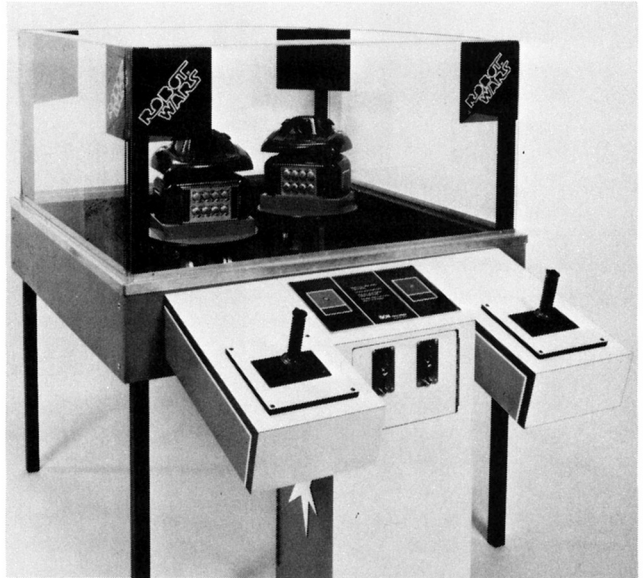
The game consists of two remotely controlled robots which can fire their Laser cannons (channel strobes) at alien targets that are randomly controlled on the corner posts. The object of the one- or two-player game (two player mode is simultaneous) is to score as many kills as possible in the allotted time of 90 seconds to 3 minutes. Alien targets are specially lighted graphics that activate at random, thus requiring the player to maneuver his

robot in position in order to fire.

A player can bump his opponent's robot out of position or even fire at the robot. A direct hit on the robot's target sensor will send it spinning across the arena complete with explosion sound. Scores for hits on the alien corner posts are recorded by separate digital displays on the player console.

The game is available in two versions, the larger having two 4-foot robots with an 8-by-8-foot playing area, lighted target corner posts, and remote consoles.

The smaller game is a 4-by-4-foot elevated playing surface containing two robots scaled down to size accordingly and is enclosed in clear Lexan for protection.



Wheels with video

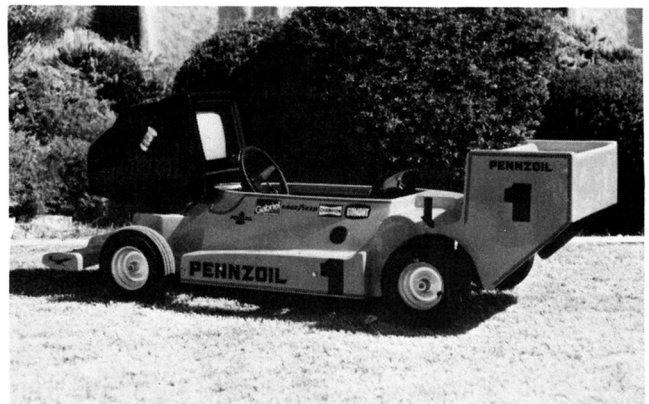
Continental Amusement Mfg. Co., of Milan, Illinois has recently entered the coin-op industry and announced its line of Little Wheels one-third scale kiddie rides.

The mini cars and pickups are faithful reproductions of their full-size originals in styling, details, color, and fiberglass body workmanship, said the manufacturer with facilities in Olwein, Iowa and Tempe, Arizona.

Among the Continental line of rides is *Indy Car*, with a bright yellow paint job, weighing 185 pounds, and 87½ inches long by 35½ inches wide and 21½ inches high.

All the Little Wheels are set on 25¢ coin acceptor, with steel chassis, molded fiberglass body, and modular color TV for the child to see the driving course of the ride. One child can ride; and 110V power is standard.

Others in the line are: *Model A Flame Roadster*, *Corvette*, *Dodge Pickup*, and *Ford Pickup*.



Lil' Hustler cues up

Dynamo Corp. has announced plans to begin production of *Lil' Hustler*, a new coin-operated video pool game licensed from Konami Industry of Japan. The agreement with the Osaka-based company gives Dynamo the exclusive rights to manufacture and market *Lil' Hustler* in North America.

The solid state, one- or two-player game is available in both upright and cocktail table models, with a full-color monitor that produces visual images and realistic sound effects designed to enhance the fast-paced action on the screen.

The object of the game is for the player to shoot the six numbered balls into any one of six pockets, each of which carries a bonus factor for extra points. Sinking the balls in the pockets is accomplished by aligning the cue ball with a guide spot which the player moves around the perimeter of the pool table appearing on the screen. Once the target ball is positioned between the cue ball and the guide spot, the player selects one of three continually changing cue ball speeds and makes his shot.

Improperly hit target balls may ricochet off other balls, or a ball may be banked off the cushions of the video table just as on a regular pool table. Pulsating lights and exciting sound effects accompany each shot.

Bill Rickett, president of Dynamo said, "The introduction of the *Lil' Hustler* video pool game marks a substantial financial investment and a major manufacturing and marketing commitment on the part of Dynamo. Cabinets for the games will be manufactured in our Grand Prairie, Texas plant where the games also will be assembled. We have made every effort to obtain only the highest quality components for use in the games and a complete inventory of spare parts will be maintained here."

Lil' Hustler provides the operator with a number of adjustable options. Depending upon players' skill, the operator can control the degree of difficulty of the game as well as the playing time. Adjustable coinage can be set to determine the cost of one play. And, all logic boards are readily accessible, providing easy service for technicians.



Bally debuts 3-level pin

Bally Pinball Division has released *Elektra*, its first 3-level pinball game.

The key to *Elektra* centers around a mini-sized playfield on the third level. This level, complete with its own bonus system, can only be activated by accumulated Elektra units, that are scored through the 2 upper levels' targets. Play on this level begins only after the ball has drained and a minimum of 6 Elektra units have been earned.

The center level playfield has a blue target feature whose flashing light can be rotated by the left flipper button. Completion of a light sequence qualifies the right locked ball saucer and left outlane special as well as awarding Elektra units.

Elektra's upper playfield has numbered flashing targets, which if hit in sequence light the saucer for a locked ball. A series of in-line boot-a-ball drop targets multiplies scores and awards Elektra units as well.

"We're very excited about the response to *Elektra*," said Paul Calamari, vice president/sales. "The combination of two separate bonus systems, multi-ball, three levels of play and a unique graphics and speech/sound package have made *Elektra* a very high earning flipper."



CLASSIFIED ADVERTISING

TURN IN YOUR OLDIES FOR GOODIES

WE PAY CASH FOR JUKE BOXES, PINBALL MACHINES, ANTIQUES, ARCADE GAMES, GUM BALL MACHINES, ELECTRONIC GAMES REGARDLESS OF CONDITION

CALL OR WRITE TODAY

CEG

Computer Earning Games, Inc.

51 Monroe St. 18th Floor, Rockville MD 20850
Phone (301) 424-0600

REDUCED!!!

ASTRO BLASTER.... \$1995.
GORF.....2195.
PHOENIX.....1995.
SCRAMBLE.....2095.
PAC-MAN.....2195.
ASTEROIDS (Deluxe).....1995.
DEFENDER.....2395.

713/569-9649
713/560-3645

EDUCATION

Is the key to success in any technical career and especially the pinball and video game repair business. Now you can learn-not only practical know-how-but also a solid background in electronics and microprocessor technology. This knowledge will enable you to keep abreast of this fast changing business. At E.I.B. we offer courses at all levels. Day and evening courses are available.

For further information & application:

ELECTRONIC INSTITUTE OF BROOKLYN
4823 Ave. 'N', Brooklyn, NY 11234
212/377-0369 (collect)

CLOSE OUT PRICES
RECONDITIONED
LOW NUMBER OF PLAYS
UPRIGHTS

Scramble	\$1995
Asteroids	1695
Venture	1995
Kaos	2195

COCKTAIL TABLES

Asteroids	\$1595
Crazy Climber	1695
Moon Cresta	1195
Space Invaders II (Taito)	995
Extra Bases	1095


B & J VENDING CO.
23067 David, E. Detroit, MI 48021
313/751-0722

SEND FOR COMPLETE LIST OF GAMES

NEW AND USED

IN STOCK
Solid State Pinballs
As Low As

\$295.00

 **WORLD WIDE distributors, inc.**

2730 W. Fullerton Ave., Chicago, IL 60647
(312)384-2300

MICHIGAN BRANCH:
36339 Groesbeck Hwy, Mt. Clemens, MI 48043
(313)791-7870

HIGH COST OF NEW GAMES CUTTING INTO YOUR PROFITS?

Why Not Convert Dead Pieces into new money makers for less than half the price

VIDEO CONVERSION KITS

Easy to install...guaranteed!

Also new and used games available:
Scramble, Defender, Puckman II and many more

Call in New York:

MEGA SYSTEMS
(516)785-5473

SERVICE
EXPERTLY & RELIABLY
done on all coin operated games. Boards repaired, games converted, kits installed, contract rates available.
Arcades a specialty

Call or Write:

JACK GUARNIERI SERVICE COMPANY
Box 155, Brooklyn, NY 11236
(212)531-1557

GAME BOARDS FOR SALE

ATARI: Breakout, Avalanche, Night Driver, Tank, Super Bug, Starfire, Destroyer, Dynamo, Football, Outlaw, LeMans, Stunt Cycle, Starship
Midway: Seawolf I, Gunfight, Maze
Venture Line: Smash
Exidy: Space Firebird
U.S. Billiards: Space Battle
Ramtec: Trivia

Complete F-1 as is

Also have music parts for these games plus several used B/W monitors and few new game cabinets. Prices negotiable.

Call for information:
812/376-0636

BUY * SELL * TRADE

Pinballs, Video Games, Slot Machines, Jukeboxes, Arcade & Vending equipment
'A' AMUSEMENTS
 2316 Stevens Creek Road
 San Jose, California 95128
 (408)287-4884

100'S OF USED GAMES FOR SALE

Locations throughout the United States
 Videos and Pinballs always available at good prices from out chain of 41 gamerooms.

Contact Bruce Cherubin at
 (800)423-5405,
 in California (213)703-0022
 for location address



NEED NEW CABINETS?

We manufacture formica'd Galaxian-style cabinets.

Quantity
 1-24 \$275 each
 25 or more \$250 each
 100 or more ... call for price quote

F.O.B. Long Island, New York

Complete with cut-outs and interior braces

Also available: metal hardware, cash box doors, and control panels.
 Call

TRIAD SYSTEMS
 516/681-6263

NEW CABINETS AND VIDEO SUPPLIES:

Cabinets from \$185.00—\$210.00 each
 Four different styles
 Plywood with woodgrain formica finish
 Complete line of power supplies

Color monitors: CRT's, coin slots, joysticks and other video supplies.

Write for complete price list and literature:

SHADCO, INC.
 2738 State Ave.
 Panama City, Fla 32405



©MIDWAY TM of MIDWAY MFG. CO.

DO YOU ♥ SALES?

Tie in with the hottest game. Pac-Man Licensed Color T-shirts.

Color Print on High Quality Yellow Cotton/Poly T-shirt.

\$48/dozen—minimum order 1 dozen.

Contact us now to order or for more information.

AMUSEMENT MARKETING CONCEPTS, LTD.
 P.O. Box 3002
 Springfield, MA 01101
 Call: 413/781-1220

SHIP TO: _____
 Street _____
 City _____ State _____ Zip _____
 Phone () _____

Size	Quantity Ordered	Unit Price	Line Total
S			
M			
L			
XL			

TERMS: Check with order or sent C.O.D.
 Please make checks payable to:
Amusement Marketing Concept, Ltd.
 P.O. Box 3002, Springfield, MA 01101.

SUBTOTAL
Post. & Hand.
TOTAL

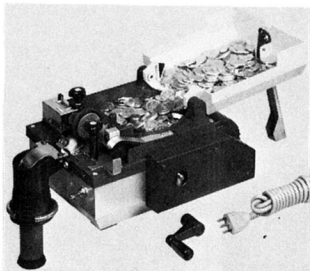
\$ 7.75

COMPARE BEFORE YOU BUY

Rock-Ola 480	\$1595
461	1795
484	1995
VENTURE (new)	\$2095
CRAZY CLIMBER (new)	1895
MOON SHUTTLE (new)	1795
ROUTE-16	1595
BERERK	1895
ARMOR ATTACK	2100
WARP-WARP	2150
NO MAN'S LAND	1395
RIP-OFF	1195
SPECTAR	1695
VANGUARD (new)	2495
PLEIDES	2395
MOON WAR	2295

BLACK HOLE (new)	2495
VOLCANO	1795
BATTLEZONE	1295
SPLIT SECOND	1795
SPIDER (new)	2095
SPACE ENCOUNTER	995
PAC-MAN	2595
PAC-MAN (CT)	2495
WIZARD OF WOR	2295
MOON BASE DELUXE	
C/T Invader Style	995
ASTERIODS DELUXE	1995
ASTERIODS DELUXE (CT)	1795
DEFENDER (in stock). Call for price	

SPECIAL PRICE ON BELITA ELECTRIC OR MANUEL COUNTER



Manuel: \$395.

Electric: \$495.

PLAY MORE GAMES DISTRIBUTING, INC.

1121 East Seminary Drive, Fort Worth, Texas 76115
 US WATS (800)433-2908 TX WATS (800)772-2703 OR (817)429-7705
 TELEX: 732-561 TELESERV (Dallas)

VIDEO GAMES

Gorf	\$2650.
Super Cobra	2595.
Galaxian	1950.
Asteroids	1895.
Eagle	1895.
Targ	1295.
Pac-Man	2795.
Berzerk	1795.
Space Zap	1295.
Sprint II	995.
Rip-Off	1395.
Super Bug	695.
Breakout	400.
Sea Wolf	595.
Bandido	895.
Spectar	1795.
Carnival	1695.
Star Castle	1995.
Missile Command	1795.
New York-New York	1495.
Radarscope	1895.
Space War	895.
Battlezone	1595.
Defender	2795.
Venture	2695.
Phoenix	2395.
Extra Bases	995.
Football	995.
Clowns	695.
Lunar Lander	995.
Robot Bowl	595.
Starship	695.
Drag Race	895.
Racer	595.

ELECTRONIC PINS

Airborne Avenger	\$595.
Time 2000	495.
Gorgar	995.
Black Knight	1995.
Flash	795.
Laser Ball	895.
Blackout	1695.
Flight 2000	1595.
Xenon	1595.

ELECTRO-MECHANICAL PINS

Surf Champ	\$295.
Jumping Jack	295.
Red Baron	295.
Superflite	295.
Hot Shot	295.
Soccer	295.
Rogo	295.
Grand Prix	295.
Olympics	295.
Air Aces	295.
Triple Action	295.
High Hand	295.
Target Alpha	295.
Boomerang	295.

MIRCO

Grand Champion Foosball	\$295.
Cigarette Machine Electronic	\$295.

1/3 Deposit/Balance C.O.D.

FUN FACTORY, INC.

5177 Ledgewood, Milford, MI 48042
 313/474-7840

GILLEY'S EL TORO BULL

for sale
 with BRONCO CUSHIONS

Contact:

PINBALL WIZARD

915/646-9801 or 915/646-6571



"Just walk up to him, and tell him we're closed, that's all!"

WILLIAMS DEFENDERS

\$1995.⁰⁰ each

Scramble, Asteroids, Asteroids Deluxe,
Gorf, Pac-Man, Armor Attack, etc.

All are first line & first quality.

All are at the lowest prices!

277-6354

DANNY PETROVICH

998-8636



649 West Hazelwood, Phoenix, Arizona 85013

WANTED

EXPERIENCED MANAGER-INT'L SALES

International Corporation in coin-operated amusement game industry seeks experienced manager to establish U.S. Sales company in new and used equipment. Knowledge of distributor/operator network preferable. Send resume with salary history to:

Post Office Box 50075, Cicero, Illinois 60650

All replies will be strictly confidential

GAMES CHECKED AND READY FOR LOCATION!!

Frogger	..... Call
Galaga	..... Call
Omega Race	..... Call
Pac-Man	..... Call
Eliminator	..... Call
Strategy	..... Call
Battlezone (up)	..... \$1150.
Missile Command	..... \$1550.
Red Baron (up)	..... \$1925.
Star Castle	..... \$1650.
Atari Basketball	..... \$495.
Dozer	..... \$250.
F-1 Sit Down	..... \$495.
Lunar Lander	..... \$695.
Sprint IV	..... \$850.
Atari Drag Race	..... \$495.
Football (4 pl)	..... \$695.
Circus	..... \$395.
Starship I	..... \$395.

LAKESIDE ELECTRONICS & AMUSEMENT CO.

310 Covington Street
Madisonville, LA 70447

504/845-7146

(If no response)

504/892-0506

Ask for Mike Cannon

REFLEX GAMES "QUICK STOP" Close Out 1981 Model NEW IN CARTONS

\$299.⁰⁰

Lots of Five

\$325.⁰⁰ each

ALLIED GAMES
550 East Grand Avenue
Beloit, Wisconsin 53511
608/365-0699

ATTENTION SMALL GAME MANUFACTURERS

Logic Boards & Kits
Legal Only

original design or import
(813) 485-2506

FOR SALE VIDEO GAMES

ATARI	
Asteroids (6)	..... \$1200.
Asteroids Deluxe (6)	..... 1200.
Destroyer	..... 200.
Lunar Lander (2)	..... 450.
Missile Command (2)	..... 1100.
Super Bug (2)	..... 300.
Sprint (3)	..... 400.
Subs	..... 250.

MIDWAY	
Space Invaders (5)	..... 600.
Space Invaders Deluxe	..... 600.

STERN	
Berzerk (2)	..... 1300.
Super Cobra (2)	..... 1500.
Scramble (2)	..... 1300.
Astro Invader	..... 850.

CINEMATRONICS	
Armor Attack (5)	..... 1500.
Star Hawk (3)	..... 400.
Rip-Off (4)	..... 800.
Star Castle (3)	..... 1200.
Tail Gunner	..... 500.

EXIDY	
Starfire (2)	..... 750.
Spectar (2)	..... 900.
Targ (2)	..... 700.

MISC.	
Route 16	..... 1100.
Pleides	..... 1500.
Crazy Climber	..... 1100.
Radarscope (2)	..... 1000.
Moon Cresta (3)	..... 1000.
Space Firebird (2)	..... 1000.
Astro Fighter (2)	..... 900.
New York-New York	..... 800.
Lunar Rescue (2)	..... 800.
Pulsar	..... 900.

PINBALLS

BALLY	
Space Invaders (2)	..... 750.
Star Trek	..... 300.

WILLIAMS	
Black Knight (4)	..... 1100.
Jungle Lord	..... 1200.
Pharaoh	..... 1500.
Firepower	..... 750.
Alien Poker	..... 700.
Scorpion	..... 500.
Laser Ball	..... 500.
Steller Wars	..... 500.
Flash	..... 400.
Time Warp	..... 400.

STERN	
Meteor	..... 450.

ATARI	
Superman	..... 400.

COCKTAIL TABLES

Omega Race	..... 1700.
Phoenix	..... 1200.
Astro Blaster	..... 1300.
Asteroids Deluxe	..... 1300.
Warlord	..... 1100.
Missile Command	..... 900.
Gorf	..... 1500.
Scramble	..... 1200.
Radarscope	..... 900.
Crazy Climber	..... 1200.
Route 16	..... 800.
The End	..... 600.
Space Invaders	..... 500.
Space Firebird	..... 900.
Uni Wars	..... 800.

ALL GAMES AVAILABLE
JANUARY 1, 1982

RED BARON OF OHIO
118 Southwyck Center
Toledo, Ohio 43614
419/865-4354

BUY GAMES FROM FRANK "THE CRANK"

VIDEOS (all in good condition)

Missile Command	..... \$1550.
Lunar Lander	..... 600.
Super Breakout	..... 375.
Phoenix	..... 1895.
Armor Attack	..... 1695.
Space Wars	..... 525.
Star Castle	..... 1595.
Crash	..... 450.
Astro Blaster	..... 1900.
Astro Fighter	..... 1400.
Carnival	..... 1525.
Moon Cresta	..... 1525.
Pulsar	..... 1650.
Space Firebird	..... 1550.
Galaxian	..... 1550.
Gorf	..... 2095.
Pac-Man	..... 2350.
Rally-X	..... 1700.
Sea Wolf II	..... 550.
Space Invaders	..... 895.
Space Invaders (Deluxe)	..... 1000.
Space Zap	..... 1295.
Astro Invader	..... 1245.
Vanguard	..... 1895.
Berzerk	..... 1745.
Scramble	..... 1895.
The End	..... 1595.

Barrier	..... 500.
Crazy Climber	..... 1895.
Lunar Rescue	..... 1345.
Polaris	..... 1595.
Stratovox	..... 1495.
Defender	..... 2295.
Magical Spot	..... 1195.
Asteroids	..... 1850.
Asteroids (Deluxe)	..... 1500.
Tomahawk	..... 1325.
Football	..... 360.
Football (4 player)	..... 925.
Super Cobra	..... 2095.

PINBALLS

Hercules	..... \$1200.
Fireball II	..... 1500.
Flash Gordon	..... 1350.
Skate Ball	..... 875.
Viking	..... 850.
Xenon	..... 1450.
Black Knight	..... 1400.
Fire Power	..... 800.
Pharaoh	..... 1800.

LARGE INVENTORY OF OLDER PINS (CALL FOR LIST)
ARDAC Bill Changer (complete with base)..... \$1000.00

1/3 Deposit.....Balance on Delivery

PRICES ARE LOWER ON PACKAGE DEALS!

ALPHA—OMEGA SALES COMPANY
#3 Coral Street, Edison, New Jersey 08837
201/738-1800

AVAILABLE: Manuals and schematics for any electronic pinball. Also some videos. Call 212/458-5005.

A UNIQUE
CLEANER FOR
PLASTIC GLASS
"PLEXO"

Used on aircraft windshields
& windows. NOW AVAILABLE
for video games!

* Anti-Scratch * Anti-Static
* Repels Dust * Anti-Fogging

CROWN 

Billiard & Sound Supplies Inc.
180 Sunrise Highway
Rockville Centre, NY 11570
516/678-3224 or 678-3220



FOR SALE USED GAMES: Asteroids Deluxe, Berzerk, Missile Command (upright or cocktail), Carnival, Rally-X, Red Baron, Scramble, Many other current (and not so current!) games available (pin and video). **Low prices & good condition.** FLIPPER McGEE AMUSEMENTS, 523 West Cross Street, Ypsilanti, MI 48197. (313)487-9724.

ALL TOP VIDEO GAME

- UPRIGHTS
- COCKTAIL
- P.C. BOARD
- I.C. SPARE PARTS

QUICK FOLLOW-UP
&
PROMPT DELIVERY

Contact us for lower price and list.

**KYUGO
COMPANY
LTD.**

2-6-14 Higashiyama, Meguro-ku
Tokyo, Japan

Tel: (03)710-5995
Telex: 2222143 sintoa j.
ATTEN: Kyugo Co.

CLOSE OUT SALE

\$195.00	\$1195.00
Jet Fighter	Astro Fighter
Speed Freak	Quasar
280 Zap	Moon Shuttle
Demolition Derby	Space Invaders
	(above 2 are minis)
\$395.00	\$1295.00
Firebird	RadarScope
Spectar	Eagle (mini)
Polaris	Battlezone
(above are minis)	Moon Shuttle
Berzerk	Asteroids Deluxe
Spectar	Shark Attack
Star Castle	\$2195.00
Route-16	new games
Rally-X	Frogger
Targ	Red Alert
Pulsar (CT)	Lil' Hustler
Star Castle (CT)	Venture
N.Y.—N.Y. (CT)	Eagle
Spectar (CT)	Super Cobra
Rally-X (CT)	Omega Race
Route-16 (CT)	

Lowest Prices on Dynamo
Pool Tables..... \$845.00

Call for our complete list
KANE AMUSEMENT

111 So. Main St., Petal, MS 39465
601/582-4851

THE LIST OF PINBALL GAME CHIPS:
Cross reference list for Bally, Gottlieb, Stern, and Williams. Did you ever look at a game chip number and wonder what game it belongs with? You can look the chip up by the part # stamped on top. Or, if you want to find out what chip belongs in the game just look through the alphabetical listing of each game. No shop or toolbox should be without this list. Price only \$3.95. TECH SALES CENTER, 2400 Whittier St., Rahway, N.J. 07065. Phone (201) 499-0636

**BIG DISCOUNTS ON
New & Reconditioned video
games. We offer excellent
service, repairs & modifi-
cations, PCB boards,
component parts, & speed-
up kits for videos.**

ROYAL TRADING
P.O. Box 461
W. Lebanon, N.H. 03784
802/295-5300

MECHANIC/TECHNICIAN/FORE-
MAN for jukeboxes, games, and
cigarette machines. MUST be
experienced, able to motivate others
and must know how to correlate
moves, exchanges, and installations.
Also service calls to mechanics.
Queens, Nassau area in New York.
Please send resume c/o: Play Meter
Magazine, P.O. Box 24170, New
Orleans, LA 70184. Dept. #FP

SCHOOL FOR ELECTRONIC GAMES.
Electronic pinballs—one week, video games—one week, by SCHEMATICS! Our 11th year! CAL'S COIN COLLEGE, P.O. Box 810, Nicoma Park, OK 73066. Telephone (405) 769-5343.

FOR SALE: Late '80 & '81 video games and pinball games, OK Bingos, & Sweet Shawnees. Penny Falls like new \$3,000. Call or Write for special price: D & P MUSIC CO. 658 W. Market St., P.O. Box 243, York, PA 17405. (717)848-1846.

MECHANIC: Cigarette, jukeboxes, & games. Experience necessary. Would prefer some knowledge of electronics. 40/hr. work week plus benefits. Queens, Nassau area in New York. Please send resume c/o: Play Meter Magazine, P.O. Box 24170, New Orleans, LA 70184. Dept. #FP

**LOWEST PRICES ON
1982 MODELS**



- Tempest • Stargate •
- Make Trax • Qix •
- Turtle • Frogger •
- Centipede • Donkey Kong
- Streaker •



All games original—No Copies

Immediate Delivery

Computer
Games INC. Phone: 205/979-9303
Birmingham, Alabama 35226 205/822-5696

**WELL-ESTABLISHED
MUSIC & GAME ROUTE
IN PENNSYLVANIA
GROSS 350M**

*Write for information c/o: Play Meter
Magazine, P.O. Box 24170, New
Orleans, LA 70184 Dept. SP.*

30 YEARS EXPERIENCE in all phases of coin-op amusement & vending industry including businessman & executive. Looking for position in industry. Willing to relocate. Please reply c/o: Play Meter Magazine, P.O. Box 24170, New Orleans, LA 70184

VIDEO SALE!!!!
Used video games
for immediate sale
ASTEROIDS
MISSILE COMMAND
SCRAMBLE
SPACE INVADERS
GALAXIAN
DEFENDER
plus MANY MORE.....
Low prices & reconditioned
LOCATION READY



**ASSOCIATED
AMUSEMENTS**

15191 Telegraph, Redford, MI 48239
313/534-7880

**Arcade Manager/Technician
for Dallas-Houston area.**
Send resume: **YESTERDAY'S**
1237 Roebuck Dr.
Meridian, MS 39301
601/693-2484

**CRT Monitors
for Video Games**

High quality and low price

- Color Monitors
- Black and White
- X-Y Monitors
- Green Monitor

Also carry computer grade monitors

HANDWELL CORP.
257 Castro St. 2-G
Mt. View, Calif. 94041
415/962-9265

VIDEO ANALYZERS

MK4 B W Raster	\$79 95
MK5 Color Raster	\$99 95
MK6 B W XY (Vector*)	
*Wells Garder & Electrohome only \$129 95	

ASC/FLORIDA
1206 West Central Blvd.
Orlando, FL 32805
1-305/422-5199

WE HAVE A LARGE SELECTION OF NEW & USED arcade equipment. Also jukeboxes, pool tables, shuffles & cigarettes. We deliver and accept trades. COIN MACHINE DISTRIBUTORS, INC., 425 Fairview Park Dr., Elmsford, NY 10523 (914)347-3777.

WURLITZER PARTS


☆☆☆☆☆

"THE LARGEST SUPPLIER OF WURLITZER PARTS IN THE WORLD"

PARTS FOR MODELS 2600 THRU 3800 AND 1050

We also carry a complete line of parts & accessories for:

* DEUTSCH WURLITZER
* ROCK-OLA * ROWE/AMI

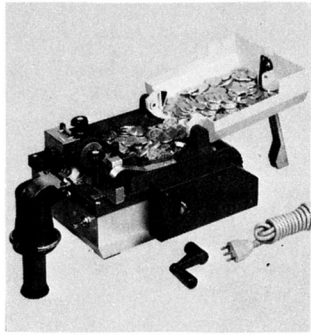


DeMoya International Corporation

LE JEUNE NORTH INDUSTRIAL PARK
4139 N. W 132 STREET
OPA LOCKA, FLORIDA 33054 USA
PHONE (305) 685-5681 TELEX 52-2157

NEW! BELITA

**LIGHTWEIGHT PORTABLE
COIN COUNTER**



**NEW! BELITA
LIGHTWEIGHT PORTABLE
COIN COUNTER**

Manual or Electric

- **Automatic Stop**
- **Inexpensive**
- **Coin Tray Support**
- **Bag Holder**
- **Fast**
- **Only 9 pounds**
- **Long Lasting**

R.H. BELAM CO., INC.
1 Delaware Drive
Lake Success, N.Y. 11040
Phone: 516/488-5600
Telex: 221568 or 7978093

**SELLING ENTIRE BUSINESS
MUSIC & GAME ROUTE**

Well-Established

**Excellent Modern Equipment
Good Growth Potential**

*Selling for health reasons. Located in
Mississippi Gulf Coast Area.*

*Write c/o: Play Meter Magazine, P.O. 24170,
New Orleans, LA 70184, Dept. DS.*

**AN EXPERIENCED
PACKAGE**

**Seeking position in Sales
Management/Marketing**

Qualifications include:

25 Yrs. Selling Experience

**10 Years Service Oriented
Electronic Sales**

8 Years in

**Amusement Industry
(started own street route)**

Willing to Re-locate

Travel No Problem (preferred)

Send inquires c/o: Play Meter
Magazine, P.O. Box 24170, New
Orleans, LA 70184, Dept. #JO
ALL REPLIES STRICTLY CONFIDENTIAL

60240

8310

Back by popular demand

**NEW IMPROVED
DESIGN**

Asteroid operators: DON'T LET THIS HAPPEN TO YOU! Our modification Kit II is adaptable to all Asteroid games allowing you to vary any of 3 speeds virtually eliminating machine turnover even with your best players! **TESTED & PROVEN.** Games with this modification kit take in more money and faster than any other game on the street. **Kit II** installs in minutes without changing chips. **Kit II** was designed to improve play and increase profits & is operator adjustable. **INCREASE PROFITS IMMEDIATELY.** Send \$25.95 + 2.00 shipping (includes all parts necessary to modify one game.)
DESIGN WIZARDRY, LTD.

P.O. Box 519, Brooklandville, MD 21022

**24 HOUR
GAME & PINBALL BOARD
REPAIR SERVICE**

Ship us any game or pinball board. In most cases it will be repaired and shipped out within 24 hours of receipt. (Same day carry in service also available.)

**LOW FLAT RATE PRICES
ON MOST BOARDS**

Our modern equipment and highly trained technicians let us fix them fast and pass the savings on to you.

For further information
or price sheet call or write:

PYRAMID

VENDING REPAIR SERVICE CO.

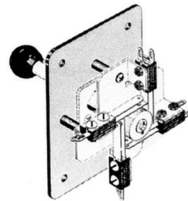
4823 Ave. 'N', Brooklyn, NY 11234

212/252-1380 Telex: 181160 US

\$26.50
Model 125

Quantity Discount

Will fit in
cocktail tables



NEWPORT
MODEL 125

STRONG, RELIABLE JOYSTICKS

Made in the U.S.A. for the needs of the American Market. Will replace joysticks in imported and domestic machines. Interchangeable gateplate for two, four, or eight positions. Engineered and built to last. All parts easily replaceable. FAST SERVICE.

IDEAL FOR PAC-MAN GAMES

Call today Satisfactin Guaranteed

NEWPORT MACHINE DESIGN
P.O. Box 418, Bishop, CA 93514 USA
(714)873-4431

GAMES FOR SALE

**LARGEST INVENTORY
IN THE SOUTH!!**

VIDEO UPRIGHTS

STAR GATE call
TEMPEST \$2795
MAKE TRAX 2595
DEFENDER 2595
SPACE ODYSSEY 2595
ELIMINATOR 2595
FROGGER 2595
MOON WAR 2595
TURTLE 2595
CENTIPEDE 2575
DONKEY KONG 2550
QIX 2495
PAC-MAN 2495
VANGUARD 2395
CHALLENGER 2395
ROUND-UP 2395
SUPER COBRA 2395
ASTEROIDS (Deluxe) 1895
BATTLEZONE 1295

COCKTAIL TABLES

DEFENDER \$2550
CENTIPEDE 2475
PAC-MAN 2395
MOON SHUTTLE 1895
CARNIVAL 1795
CRAZY CLIMBER 1695
WARLORDS 1650

PINBALLS

BLACK HOLE \$2350
CENTAUR 2095
CATACOMB 2075
8-BALL DELUXE 1795
FLIGHT 2000 1295

MUSIC BOXES

Centuri 2000 (special) \$1950

**HUNDREDS OF GAMES
IN STOCK**

Ready for immediate sale

INVENTORY CHANGES DAILY

Call for close-out specials
at **AMAZING LOW PRICES**
and for our complete list.

Trades? Yes, we take 'em
Knock-Offs? No, we don't
touch 'em

"Everything sold is 100% legal!"

DIXIE AMUSEMENT CO.
2803 Pass Rd., Biloxi, Miss 39531
601/374-2681

Contact: Steve Rodolfich

REPAIRS

All American & Foreign Game Boards

All American & Foreign
Color and XY Monitors
Video, Pinball and
All Game Repairs
Rebuild & Refinish Cabinets
Prompt Service with
1st quality parts only



Mike Munves Corp.

30 Horton Ave.
New Rochelle, N.Y. 10801

914/636-5000 212/279-6677

**WE HAVE THE LOWEST
PRICE ON AMERICAN
LOCKS & HASPS**

**ACE LOCKS re-keyed \$1.00
ACE keys cut \$1.00**

**"FOR YOUR COMPLETE
SECURITY NEEDS"**

PHILADELPHIA VENDING

8810 Dewees Street
Philadelphia, PA 19152
(215)698-2738

ELECTRONIC REPAIRS VIDEO & PINBALL

"Anything you send, I can fix!"

On site repairs made in Kansas
GOLD STARELECTRONICS
2548 Sunny Lane, Wichita, KS 67205
(316)945-7246

HELP WANTED

National operating
company looking for free-
lance service people in
the Greater Chicago &
Indianapolis areas. Must
be knowledgeable in solid
state & TV circuitry to
field service amusement
video games.

Reply: Play Meter Magazine
P.O. Box 24170
New Orleans, LA 70184
Dept. PM

FOR SALE: Stock Markets, Ticker
Tapes, and Hi-Flyers. We also carry a
complete line of Bingos and Uprights.
We are also Distributors for Amstar's
Hold & Draw. Antique Slots for legal
areas. Call WASSICK NOVELTY CO.,
473 Hite St., Morgantown, W.VA.
26505(304)292-3791.

**TUCSON ARIZONA ARCADES FOR
SALE:** Four successful units (2 mos.—
10 mos. old). All newest equipment—
120 pieces. Excellent strip-mall
leases/options. Sale Price: \$800,000 (60
weeks estimated gross). Write: OLD
PUEBLO AMUSEMENTS, INC., 5250
No. Foothills Drive, Tucson, AZ 85718.

FOR SALE: Colony 7, \$2000; Rally-X,
\$1850; Route 16, \$1950; Berzerk,
\$1850; Pharaoh, \$1900. Call: 318/
463-6545, ask for Jerry.

FOR SALE: Missile Command, \$995;
Super Cobra (CT), \$2095; Crazy
Climber (CT), \$1695; Battlezone, \$800;
Star Castle (CT), \$1545; Gorf (CT),
\$1695. Call: 806/795-9120.

FOR SALE: Counter Force, \$625; Pink
Panther, \$1175; Force II, \$1150; Flash
Gordon, \$1475; Fathom, \$1475;
Fireball II, \$1395; Xenon, \$1325;
Galaxy, \$525; Freefall, \$1175; Ali, \$695;
Nineball, \$926; Pharaoh, \$1795; Alien
Poker, \$895; Jungle Lord, \$1450; Flash,
\$525; Algar, \$825; Black Knight (w/all
improvements), \$1295; Rally X, \$1595;
Space Encounters, \$1175; Galaxian,
\$1625; Space Invaders Deluxe, \$1225;
Wizard of Wor, \$2095; Submarine,
\$925; Super Cobra (Write or Call);
Scramble, \$1795; Asteroids Deluxe,
\$1625; Asteroids, \$1775; Basketball,
\$525; Battlezone, \$1175; Armor Attack,
2 pl, \$1575; Star Castle, \$1625; Moon
Shuttle, \$1725; Targ, \$1050; Star Fire,
Sit-down, \$1125; Bandido, \$725;
Venture (Write or Call); Tranquilizer
Gun \$1295; Mini Monaco G.P. \$1975;
Space Fury (Write or Call); Intruder,
\$1595; Phoenix, \$1925; Route 16,
\$1695; Big Wheelie Motorcycle, \$1575.
(On Kiddie Rides add \$50 per ride for
packing and crating). Call or write
NEW ORLEANS NOVELTY CO., 3030
No. Arnoult Rd., Metairie, LA 70002,
Tel. (504) 888-3500.



Cocktails and Uprights

Wizard of Wor	Astro Blaster
Super Cobra	Eagle
Asteroid	Scramble
Vanguards	Astro Fighter
Pleides	Missile Command
Space Odyssey	Pac-Man
Space Fury	Venture
Omega Race	Hustler
Centipedes	Piranha
Phoenix	Asteroid Delux
Super Tank	Galaxian
Donkey Kong	Defenders
Frogger	Uni War
Tempest	Gorf

Jar Tickets & Punchboards
1934 Pace Comets (Collector)

Irving Kaye Silver Shadow Pool Tables
Assorted used Seeburg phonographs (LS-1,
LS-2, LS-3, USC-1, USC-2) Olympians, etc.

Exhibit Streamline Diggers Rebuilt (Collector)

POWERFUL SERVICE DEPARTMENT our qualified
technicians service everything we sell - anywhere we sell it.

u.s. amusements, inc

2 W. NORTHFIELD RD. LIVINGSTON, N.J. 07039

CALL COLLECT 201-926-0700



News briefs. . . News briefs. . . News briefs. . . News briefs. . .

.....Midway Manufacturing announced the largest impoundment action ever taken in connection with video game copyright infringement when 42 defendants were charged in federal court in Honolulu with violations of Midway's rights in Galaxian, Pac-Man, and Rally-X videos. Midway sought and obtained a temporary restraining order and impoundment orders against every defendant, and in total, 130 games were impounded. The contested games in Hawaii bore the names Racing-X, Moon Alien, Puckman, Xistar, Galaxian Part I, Galaxian Part II, and Galaxy Ship. In a separate action filed by Midway in federal court in Utah, impoundment orders were issued against defendant Imperial Games, Inc., and 21 videos labelled Gobbler were seized. Also impounded were 27 games without electronic PC boards. Midway's legal counsel in Chicago stated that every available legal action will be pursued on the manufacturer/licensee's behalf. Details will follow in Play Meter.....

.....A full report on the Tournament Games Inc. multi-tournament in Chicago during AMOA week will appear in the next issue of Play Meter. An investigative follow-up to the story of the fiasco—which left some winning players unpaid—was delayed due to developments which surfaced before this issue went to press.

.....The first meeting of a new Indiana operators association was held November 22 in Indianapolis. Lee Melchi, of Jack Eiser Sales/Ft. Wayne, was elected president of the Indiana Amusement & Music Operators Association. At the formative meeting were 39 persons, and the IAMOA was set for another meeting in mid-December in Indianapolis.....

.....Hal Watner, a veteran in coin-op sales, has joined a group of principals in the formation of Fantasy Games Inc. in California. Watkins will be Fantasy's executive vice president and general manager.....

.....General Vending Sales Corp. has announced the opening of its new, full branch office in Richmond, Virginia as an authorized coin-op distributor for Virginia operators. Bill Carnohan will be joining the sales staff, along with Dan Collins to serve General Vending's Virginia customers. The firm projects major increases for 1982 in the Keystone State's coin machine market.....

.....Betson Enterprises/Moonachie, New Jersey announced it recently concluded a successful sales promotion involving Rock-Ola phonographs and Automatic Products smoke shops. Entitled "Get Away from It All," the promotion offered excursions to local resorts and vacations abroad. Winning customers numbered 44 who earned these expense-paid holidays through the purchase of jukeboxes and cigarette vendors.....

.....Jim Sneed of Kurz-Kasch held mini-schools for technicians through the OMAA, teaching November 5-6 in Columbus, Ohio, and November 17-18 in Finley, Ohio, on the subjects "Basic Digital Circuitry" and "Basic Logic Circuits." About 25 persons attended each of the sessions.....

.....Ed Doris of the AVMDA distributors association reports that it is now subscribing to the Commerce Clearing House legislative monitoring service. This will alert the association to all state and federal legislation affecting the coin industry, said Doris, and a data bank on legislation specifics will be provided to AVMDA.....

.....Dixie Amusement Co. of Biloxi, Mississippi has announced it is now a full line distributor for Centuri, Inc. machines. The distributorship is located at 2803 Pass Road, Biloxi 39531.....

.....Willis Industries, Inc. has signed an agreement to be represented by James Industries in Illinois and other markets in the Midwest. All creative graphics design work and production will be done in Willis' new facility in San Jose, California, said Brian Warkentin, Willis' vice president/marketing. He noted that James Industries has "an excellent reputation built on supplying Wells-Gardner monitors and other components to the game manufacturers.".....

REVOLUTION IN VIDEO GAMES

"DECO Cassette System™"

1. HIGH CASH RETURNS ASSURED

You can be sure of top returns. Now keeping up with the winning games is simple—and cheap.

2. NO EXPENSIVE REPLACEMENTS

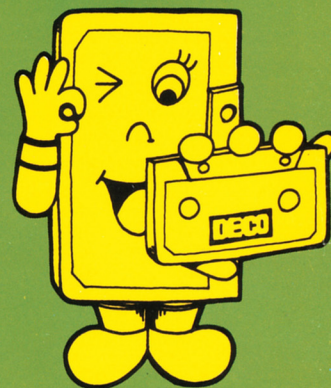
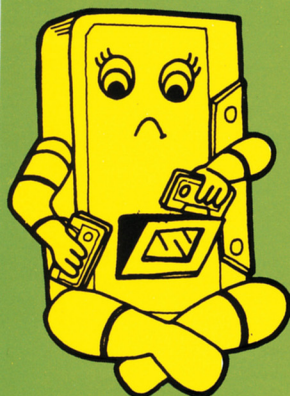
Once a game loses its popularity, there is no need to replace expensive cabinet units. DECO CASSETTE tapes will bring a new game within minutes.

3. AMPLE SUPPLY OF NEW GAMES

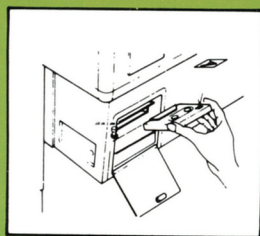
We can supply over 10 DECO original games a year and under license, supply the popular games of other major Japanese makers in tape cassettes too.

4. EASY TO CHANGE

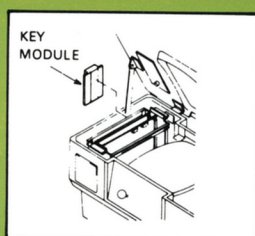
Simply change the cassettes and key modules.



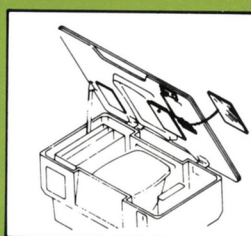
CHANGE GAME CASSETTE SIMPLY LIKE THIS



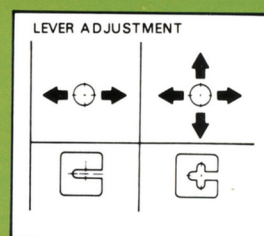
change cassettes.



set key module.



replace explanation panel.



fit the joy stick movement stopper, suitable for the game.

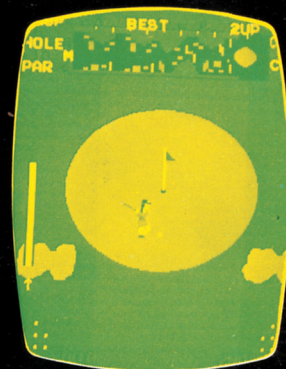
LOOK FOR OUR NEW HIT GAME!



PRO GOLF

(TOURNAMENT PRO GOLF)

- You may play the hole until you lose all your balls. If you shoot over par (bogey) you will lose one golfer.
- You will "give up" the hole when you use up all your balls. "Give up" score is higher.
- Insert more coins to play more holes (to gain more golfers). When you have lost all golfers the game is over.



CALL DATA EAST INC.
TOLL-FREE NO. 800/538-5129
FOR DISTRIBUTOR REFERRAL.



DATA EAST INC.
470 Gianni Street, Santa Clara
CA 95050 U.S.A.
Telephone: (408) 727-4490
Telex: 172163 DATAEAST SNTA

MAKE TRAX™

to Williams!



A kitten. A mouse. A bird. A runaway tire. A big cat. The invisible man. They all Make Trax through the freshest, most clever video game you've ever seen!

The player must paint each of six patterns with his brush, thwarting the mischievous characters by outmaneuvering them, painting over any Trax they make, rolling over some with his roller and giving others the brush off with his brush! The more the player paints, the trickier and the smarter the characters get!

It's strategy, challenge and just plain fun that will make players Make Trax to Williams!

Make Trax is available in upright, mini, cocktail table and cocktail table with base. For the service back-up that keeps you out-front, call Williams toll-free at 800/621-1253. In Illinois, call toll-free at 800/572-1324.

Williams® 
ELECTRONICS, INC.

3401 N. California Ave., Chicago, IL 60618 • Cable Address: WILCOIN, CHICAGO
AVAILABLE FOR IMMEDIATE DELIVERY THROUGH YOUR WILLIAMS DISTRIBUTOR

NOTICE:
"Make Trax is a trademark of Williams Electronics, Inc. Unauthorized use of Williams trademarks and copyrights will not be permitted."